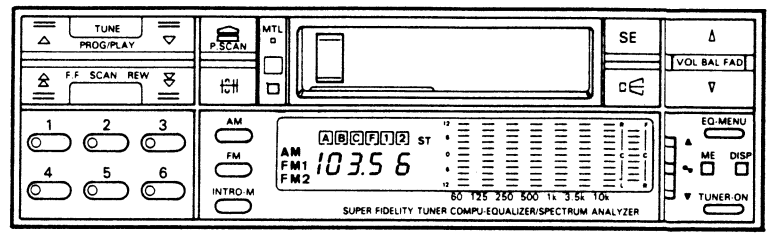
SANSUI

SERVICE MANUAL

RE-7

COMPU-EQUALIZER/SPECTRUM
ANALIZER CASSETTE RECEIVER



•SPECIFICATIONS

Audio section

Maximum output power.. 25 watts per channel into 4 ohms (1 kHz)
Rated output power..... 16 watts per channel into 4 ohms (1 kHz, 1% total harmonic distortion)
Load impedance..... 4 ohms
Total harmonic distortion.. less than 0.05% at 5 watts
Circuit system ..... OCL-BTL system
Input sensitivity and impedance (1 kHz)
LINE IN..... 450 mV/47k ohms
Output voltage
PRE OUT..... 500 mV/10k ohms
Signal to noise ratio
(A network) ..... 80 dB
Frequency response..... 20 to 20,000 Hz±3 dB
Equalizer frequency ..... 60 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 3.5 kHz, 10 kHz
Level variation range..... ±12 dB

Tape section

Track format..... 4-track/2-channel system
Tape speed..... 4.8 cm/sec.
Play back head ..... Hard permalloy, 4-track
Wow/flutter ..... 0.08% max. (WRMS)
Frequency response
Normal (LH) tape ..... 30 to 17,000 Hz±3 dB
Metal tape..... 30 to 18,000 Hz±3 dB
Signal-to-noise ratio (with metal tape, A network)
Dolby NR on..... Better than 67 dB (5 kHz)

Tuner section

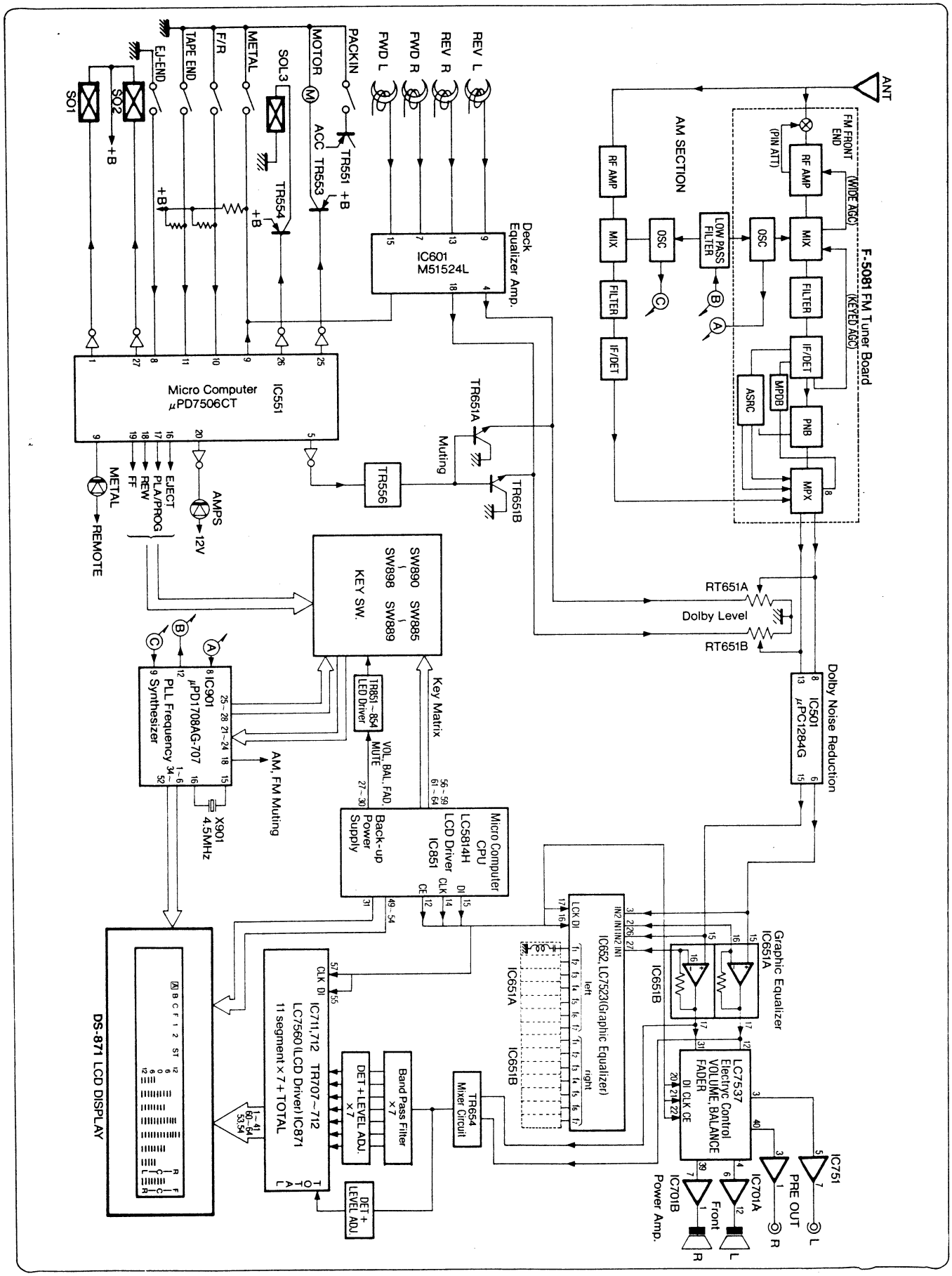
(FM)
Tuning range..... 88 to 108 MHz
Usable sensitivity
Mono IHF ..... 12.0 dBf (1.1 μV/75 ohms)
50 dB quieting sensitivity
Stereo ..... 16.2 dBf (1.8 μV/75 ohms)
Signal to noise ratio (at 65 dBf)
Stereo/mono..... 65 dB/70 dB
Frequency response
(LINE OUT) ..... 30 to 15,000 Hz±3 dB
Stereo separation ..... 32 dB at 1 kHz
(AM)
Tuning range..... 531 to 1,600 kHz
Usable sensitivity ..... 30 dB/μV (75 ohms at 1,000 kHz)
Signal to noise ratio ..... 50 dB

General

Power requirements ..... DC 12.0V/Rated: 14.4V (Usable: 10.8~15.6V) negative ground
Current consumption ..... 5A Maximum
Dimensions..... 189 mm (7-1/2") W
57 mm (2-1/4") H
160.5 mm (6-3/8") D
Chassis size ..... 178 mm (7-1/8") W
50 mm (2") H
145.5 mm (5-3/4") D
Weight (net) ..... 1.53 kg (3.37 lbs)

* Design and specifications subject to changes without notice for improvements.
* Dolby noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double D symbol are trade marks of Dolby Laboratories Licensing Corporation.

1. BLOCK DIAGRAM



2. ADJUSTMENTS

2-1. FM Adjustment

Note: 1. FM Switch..... ON
2. Toncontrol, Barance Volume..... Center
3. Connect as shown Fig. 1.
4. Refer to Fig. 2, 7 for ADJUSTMENT Points.

Fig. 1

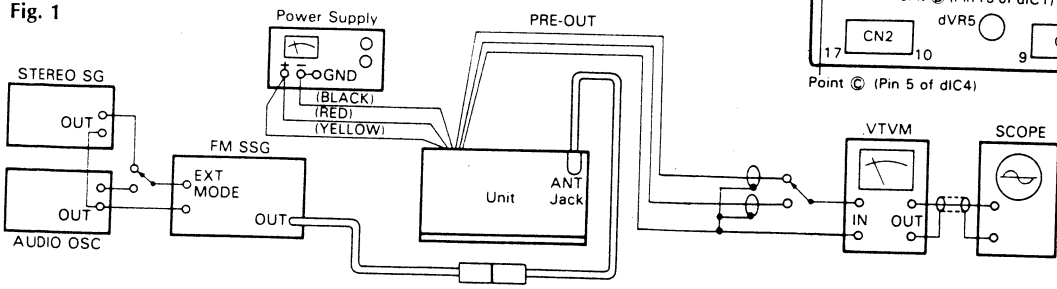
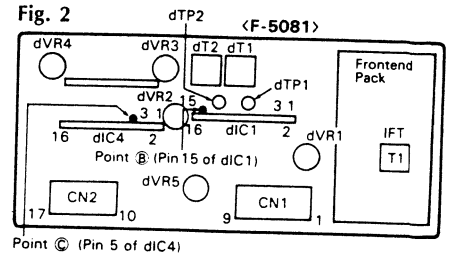


Fig. 2



STEP	SUBJECT		FEED SIGNAL FROM	FEED SIGNAL TO	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
1.	IF Coil Adj.		98MHz 20dBf (14.8dB), 1kHz (100% MOD.), FM SSG	ANT Jack or Point Ⓐ	Between Point Ⓑ (Pin 15 of dIC1) & GND, (F-5081) DC Volt Meter	IFT Coil T1 <Frontend Pack>, (F-5081)	Max. DC Volt	
2.	Discriminator Coil Adj.	①	No Input	—	Between TP-1 & TP-2, DC Volt Meter (F-5081)	dT1 (F-5081)	DC 0V ± 50mV	•Repeat procedures as stated in subject ① & ②
		②	98MHz 65dBf (59.8dB), 1kHz (100% MOD.), FM SSG	ANT Jack or Point Ⓐ	L or R-CH PRE-OUT, Dist Meter	dT2 (F-5081)	Min. THD	
3.	Pilot Cancelling Adj.		98MHz 65dBf (59.8dB.), FM SSG, Pilot 19kHz (9% MOD.), STEREO SG.	Same as above	Between Point © (Pin 5 of dIC4) & GND, SCOPE & VTVM	dVR4 (F-5081)	Min. 19kHz Pilot signal level	
4.	Separation Adj.		98MHz 65dBf (59.8dB) FM SSG, Pilot 19kHz (9% MOD.), L MODE 1kHz + Pilot (100% MOD.) STEREO SG.	Same as above	L-CH PRE-OUT, VTVM & Scope	—	Read this indication on VTVM	
					R-CH PRE-OUT, VTVM & Scope	dVR3 (F-5081)	−26 ~ −35dB from the indication above.	Confirm R-CH→L-CH
5.	Auto Noise Control Level Adj.		98MHz 45dBf (39.8dB), FM SSG, Pilot 19kHz (9% MOD.), L MODE 1kHz + Pilot (100% MOD.), STEREO SG.	Same as above	L-CH PRE-OUT, VTVM & Scope	—	Read this indication on VTVM	
					R-CH PRE-OUT, VTVM & Scope	dVR2 (F-5081)	−6dB from the indication above.	Confirm R-CH→L-CH
6.	Auto stop Level Adj.		98MHz ANT Input 45dBf (29.8dB) 1kHz (100% MOD.), FM SSG	Same as above	Digital Display 98MHz	dVR5 (F-5081)	Tune the tuner to 98MHz by using the automatic search tuning operation.	

◆Technical Hint for FM Adjustment

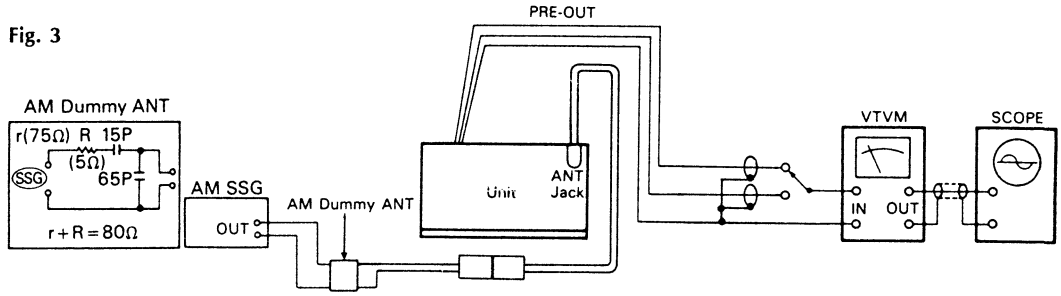
- The impedance of FM antenna terminal is 75Ω. Therefore, connect coaxial cable (3C-2V etc.) between FM SG and antenna terminal when wiring.
- There are two kind in indication of FM SG output attenuator
  1. Attenuator with marking of 75Ω open ... open indication type.
  2. Attenuator with marking of 75Ω load or close ... load or close indication type.
- FM SG output level in this FM adjustment are described as open indication type. The right table shows relations among FM SG attenuator indication (dB), available power ratio (dBf) and antenna terminal voltalge (dB/μV) in each indication type.
close indication type.

	FM SG Attenuator Indication	Available Power Ratio	Antenna Terminal Voltage
Open indication type	0 dB 60 dB	5.2 dBf 65.2 dBf	6 dB/μV 66 dB/μV
Load or close indication type	0 dB 54 dB	11.2 dBf 65.2 dBf	12 dB/μV 66 dB/μV

2-2. AM Adjustment

Note: 1. AM Switch ..... ON
2. Connect as shown Fig. 3.
3. Refer to Fig. 6, 7 for ADJUSTMENT Points.

Fig. 3



STEP	SUBJECT	FEED SIGNAL FROM	FEED SIGNAL TO	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
1.	Tuning Voltage Adj.	Tune the tuner to 522kHz	——	VT Point, DC Volt Meter	T404	1.1V±0.1V	
		Tune the tuner to 1629kHz	——	VT Point, DC Volt Meter	CT403	8.0V±0.1V	
2.	IF Adj.	450kHz ANT Input 60dB 400Hz (30% MOD.)	ANT Jack or Point Ⓐ	Pre Output Scope	T401, T405	Max Output	
3.	RF Adj.	612kHz ANT Input 30dB 400Hz (30% MOD.), AM SSG.	Same as above	Same as above	T402, T403	Same as above	
		1403kHz ANT Input 30dB 400Hz (30% MOD.), AM SSG.	Same as above	Same as above	CT401, CT402	Same as above	
4.	Scan Stop Adj.	999kHz, 40dBμ/V AM SSG.	Same as above	Display	RT401	Tune the tuner to 999kHz by using the scan stop operation.	Turn the RT401 from bottom plate side.

2-3. Cassette Deck Adjustment

Note: 1. Before this adjustment, clean P.B. head surface.
2. For this adjustment, use SANSUI Test Tape SCT-F10K, SCT-L400.
3. DOLBY NR Switch..... OFF
4. VOLUME..... MAX
5. BALANCE VOLUME, GRAPHIC EQUALIZER ..... Center
6. Connect as shown Fig. 4.

Fig. 4

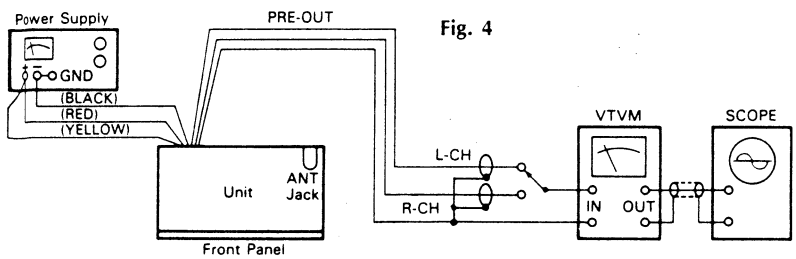
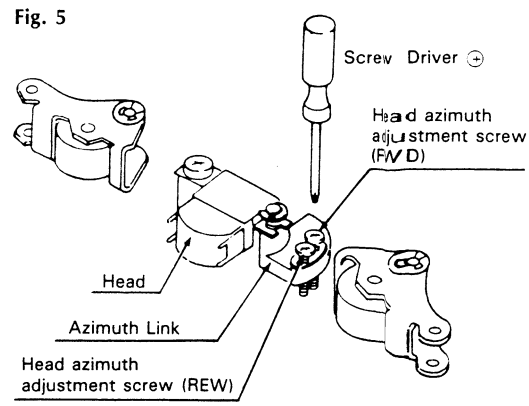
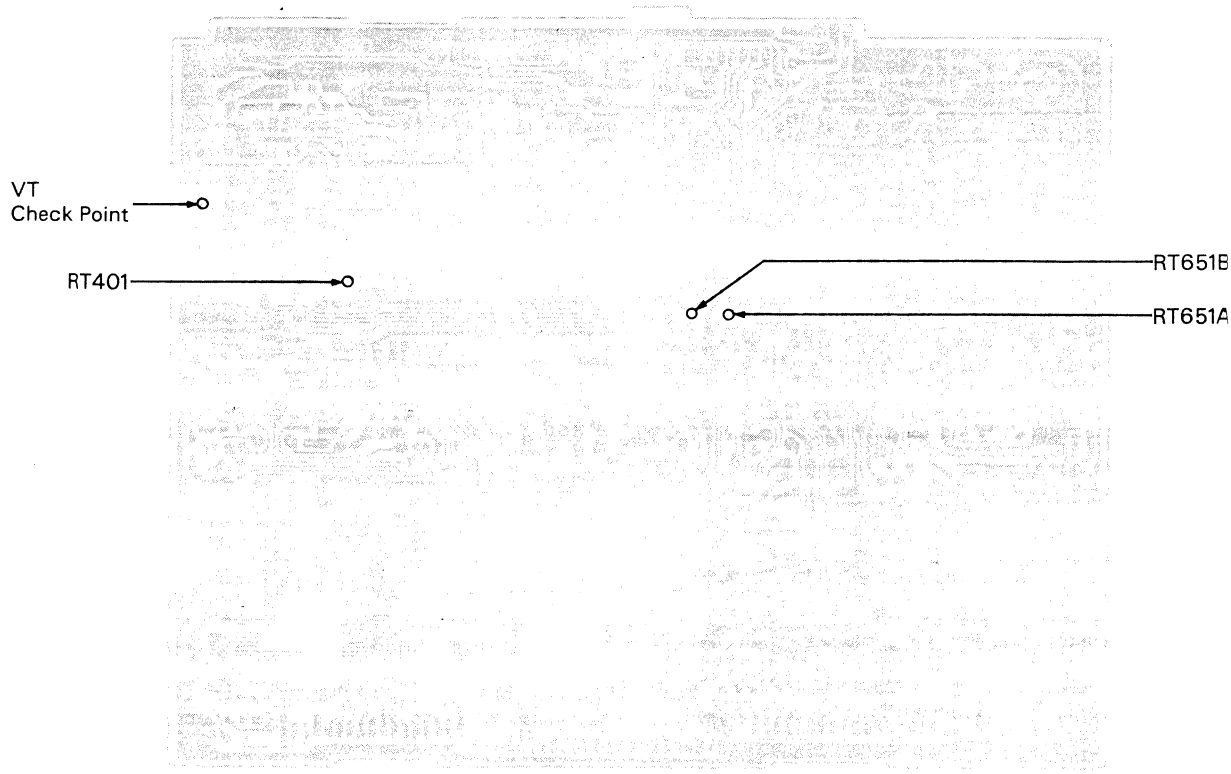


Fig. 5



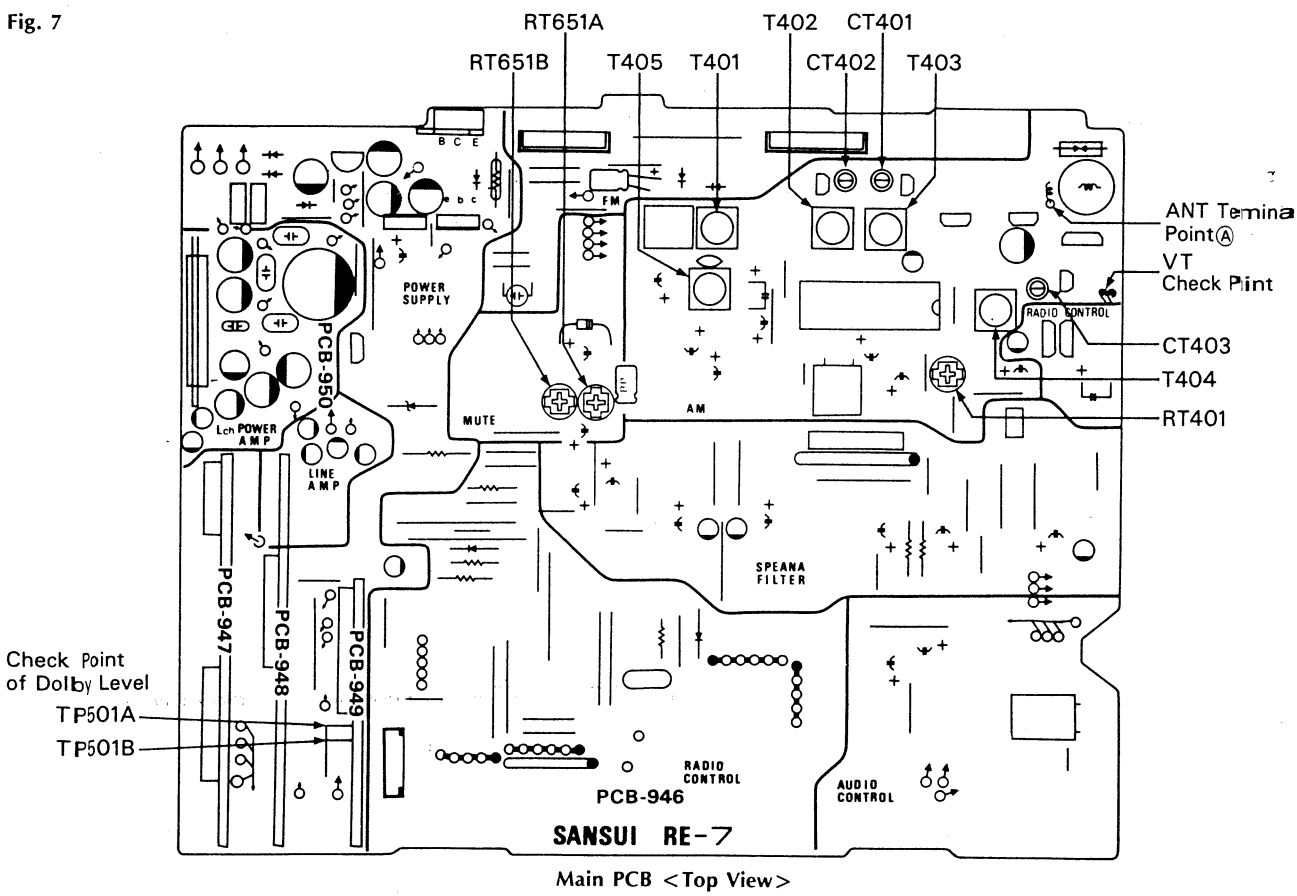
STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	P.B. Head Adj.	TP501A (L-CH) TP501B (R-CH) VTVM and Scope	Playback (FWD & REV) the TEST TAPE SCT-F10K	Adjust the azimuth adjusting screw in (Fig. 5).	MAX. Output both channels on FWD and REV PLAY	After this adjustment, lock the screw with paint.
2.	Playback Level Adj.	Same as above	Playback (FWD & REW) the TEST TAPE SCT-L400	Adjust RT651A for L-CH and RT651B for R-CH (Fig. 6)	450mV±2dB both channels on FWD and REV PLAY	See Fig. 6 on Page 4.

Fig. 6



Main PCB <Bottom View>

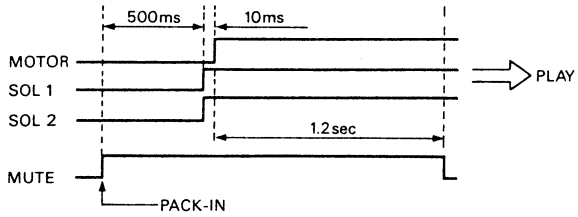
Fig. 7



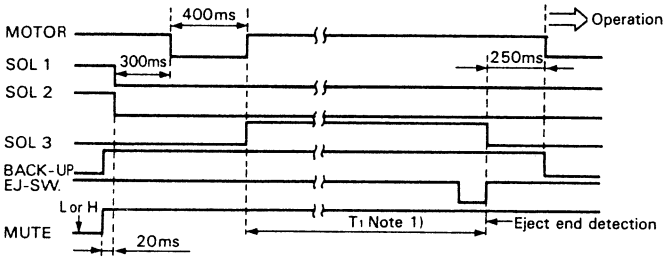
Main PCB <Top View>

3. TIMING CHART OF DECK CONTROL IC, μPD7506CT

1. LOADING (PACK-IN)

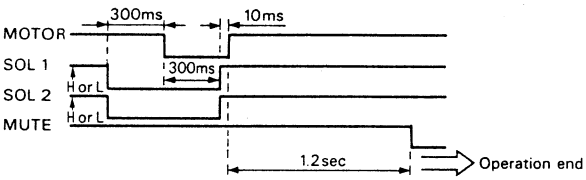


2. PLAY, FF, REW→EJECT

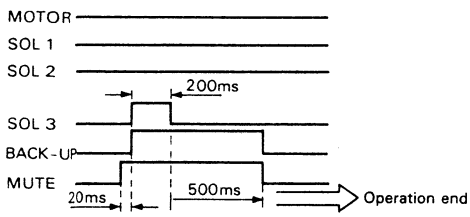


Note 1: T1 denotes a time interval between SOL3 energization and eject end detection. When no end signal is generated for 800ms (at maximum), SOL3 is deenergized. When no end signal is generated for 2.2 sec (at maximum), the motor is stopped.

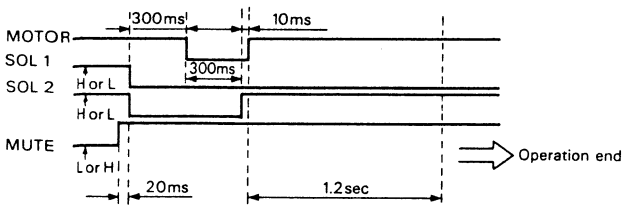
3. FF, REW→PLAY



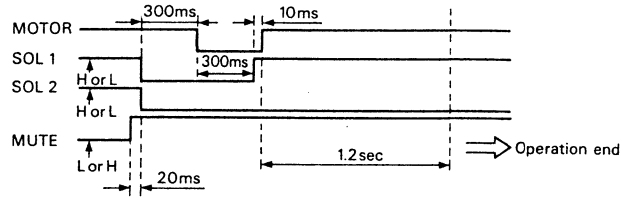
4. PROGRAM (FWD→REV)



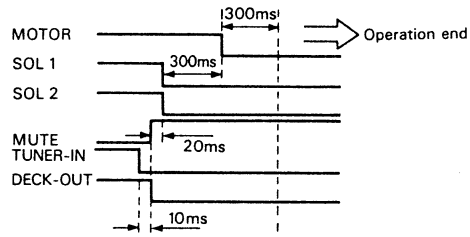
5. PLAY, FWD•FF, REV•REW→FWD•REW, REV•FF



6. PLAY, FWD•REW, REV•FF→FWD•FF, REV•REW



7. PLAY, FF, REW→STOP (RADIO ON)



Note 2: The timing of DECK-OUT signal leading edge is an operation start of PLAY, FF and REW.

Note 3: Operation key entry is enabled immediately after operation end.

Note 4: Music intermission detection and RADIO input check are also enabled immediately after operation end.

•Protection program for mechanism

1. EJECT

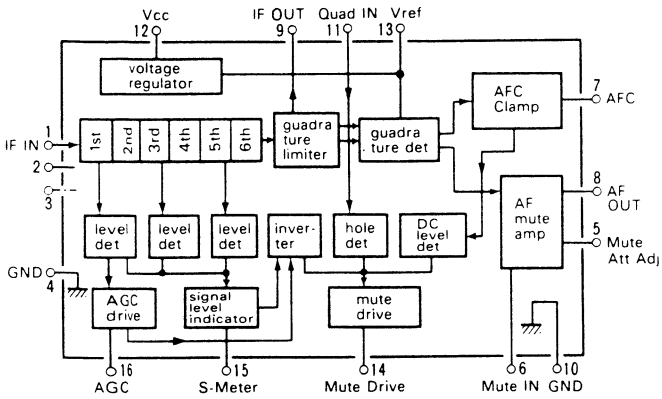
SOL3 is kept energized from when motor is driven to when eject end is detected for 500 to 600 ms (including temperature and voltage fluctuations). At this moment, if no eject end is detected after 800ms (at maximum) has elapsed, the SOL3 is deenergized. Similarly, if no eject end is detected after 2.2 sec (at maximum) has elapsed, the motor is stopped into STOP mode.

2. Abnormal reversal

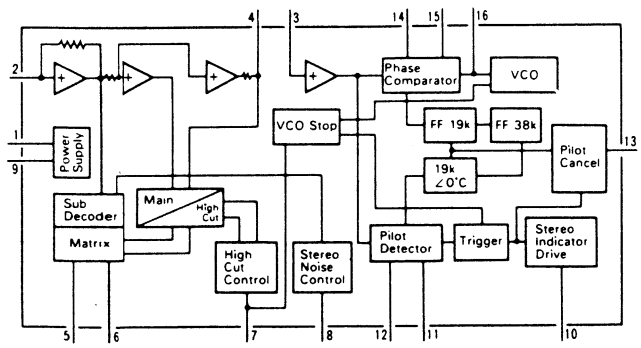
When three tape ends are detected within 20 sec, the head plate are returned into STOP mode because this is detected as being abnormal. In response to the first tape end, the counter is set to three, and simultaneously the counter starts counting 20 sec. In response to the second tape end, only the program operation is stopped, and in response to the third tape end, all the operations are stopped.

4. INTERIOR BLOCK DIAGRAM & TERMINAL FUNCTION OF IC

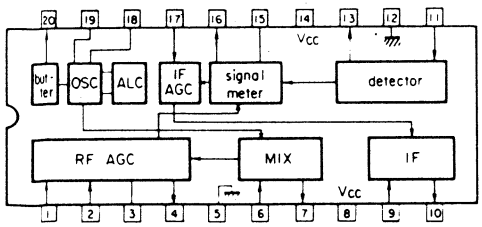
•LA1140 (FM IF AMP. Quardrature Detector)



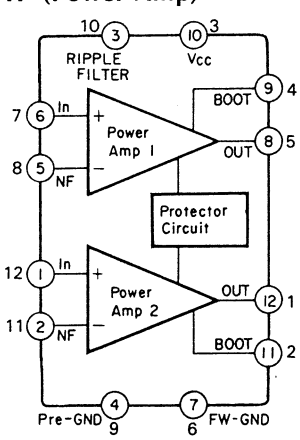
•LA3430 (FM Stereo MPX)



•LA1135 (AM Tuner)

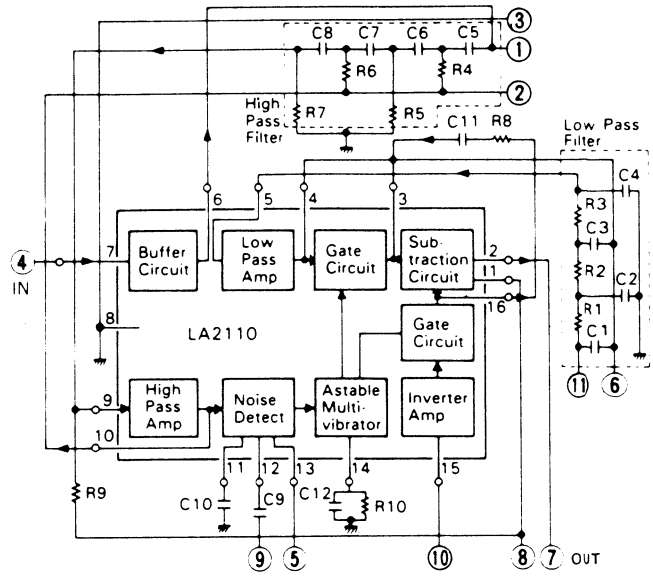


•TA7270P/7271P (Power Amp)

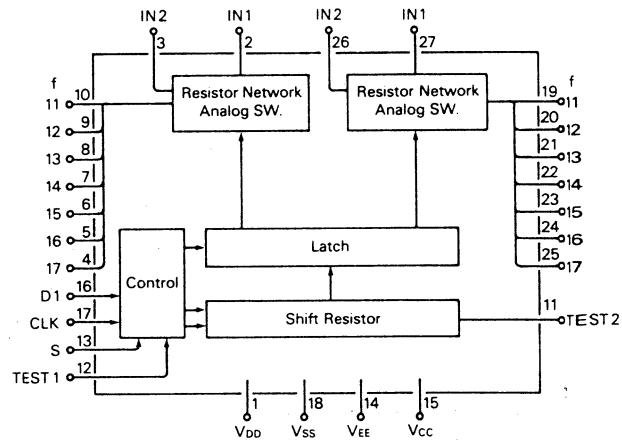


TA7270P ..... ① ~ ⑫
TA7271P ..... 1 ~ 12

•NC3S301 (FM Noise Canceller)



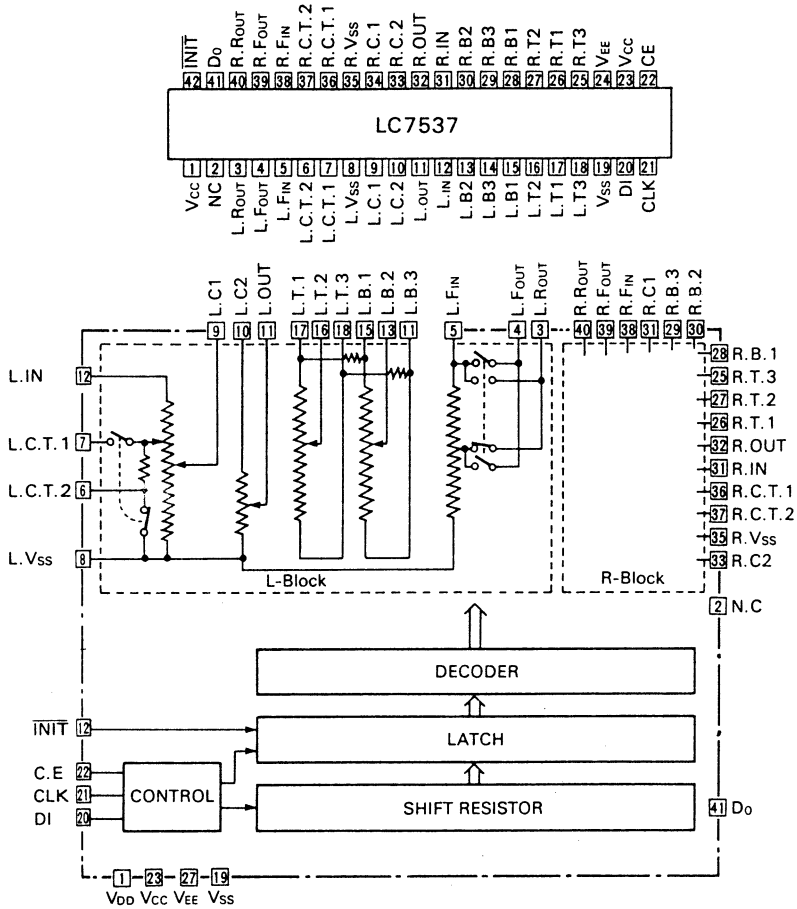
•LC7523 (Equalizer)

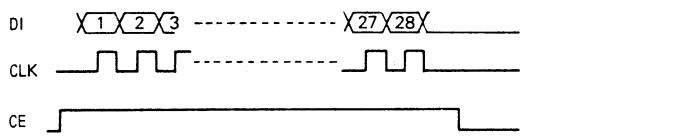


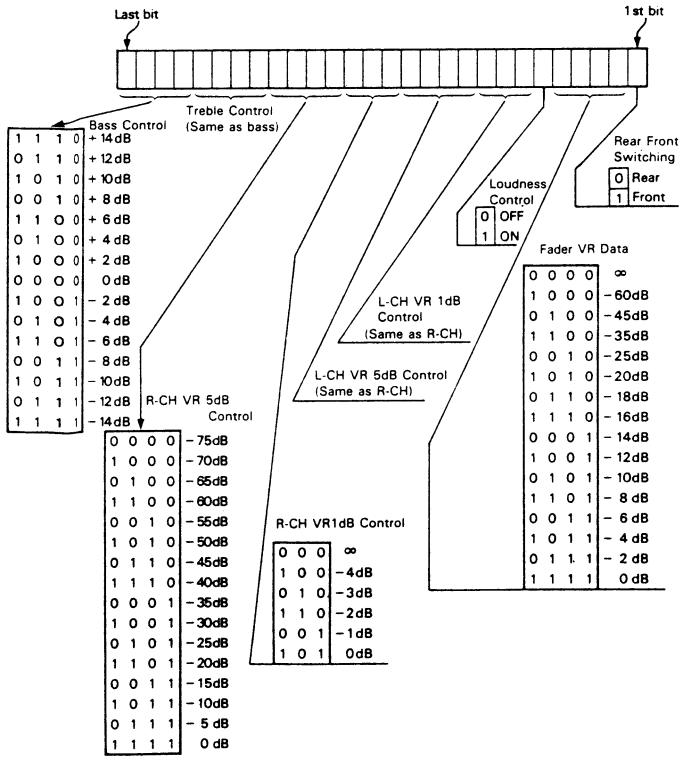
<Terminal Description>

Terminal name	Terminal type	Description
VDD (1)		Supply voltage terminal — For audio signals.
VSS (18)		〃 — 0V
VEE (14)		〃 — For audio signals. Connected to Vss when half supply voltage is used.
VCC (15)		〃 — +5V (type)
DI (16)		•Input terminal of data from CPU. •Schmidt inverter type.
CLK (17)		•Input terminal of clock from CPU. •Schmidt inverter type.
IN1 (2, 27) IN2 (3, 26)		•Input terminals of audio signals. •IN1 is usually connected to an inversion input of an operational amp. •IN2 is usually connected to a non-inversion input of an operational amp. •Both are provided for each of right and left.
f11 ~ f17 (10 ~ 4, 19 ~ 25)		•Connecting terminals of a bandpass filter. •f1 to f7 x 2 (right and left) + 14 terminals in total.
S (13)		•Select terminal when two chips are used. •If "1" is input, key code C3 is connected to VDD. •If "0" is input, key code C2 is connected to VEE.

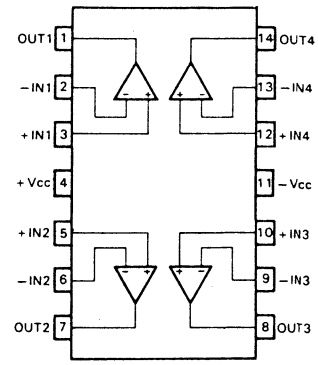
•LC7537 (Electrical Volume System)



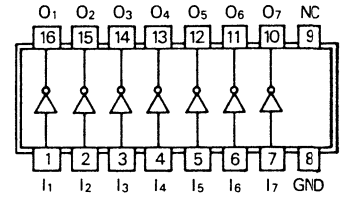




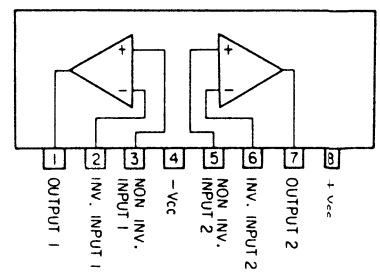
•BA14741F (Operating Amp.)



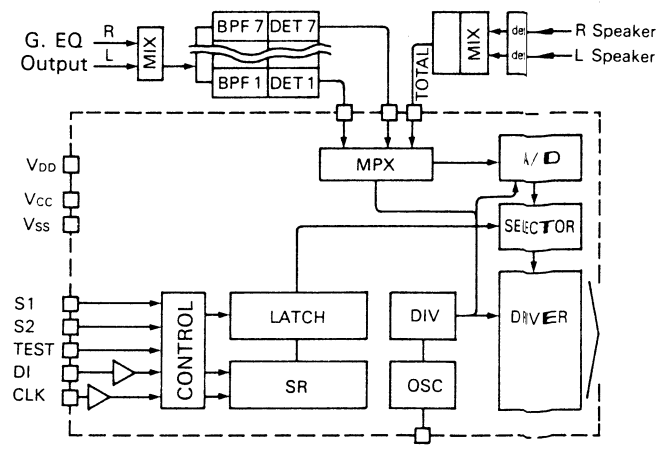
•TD62104F (Transistor Array)



•μPC4558 (Audio Pre Amp.)

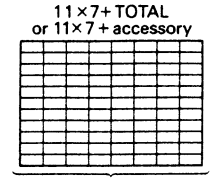


•LC7560 (LCD Driver)



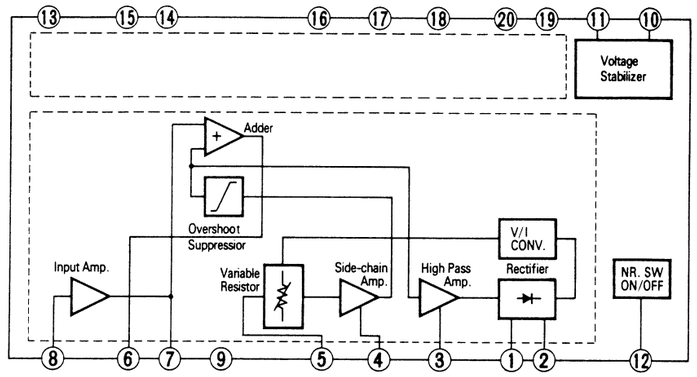
LCD 1/2 duty

11×7+TOTAL
or 11×7+accessory

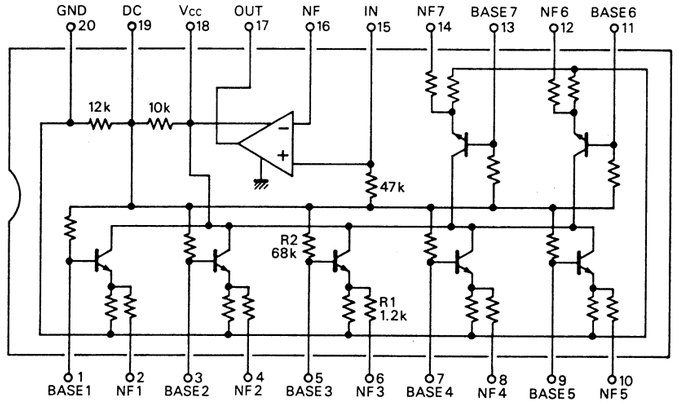


11×8

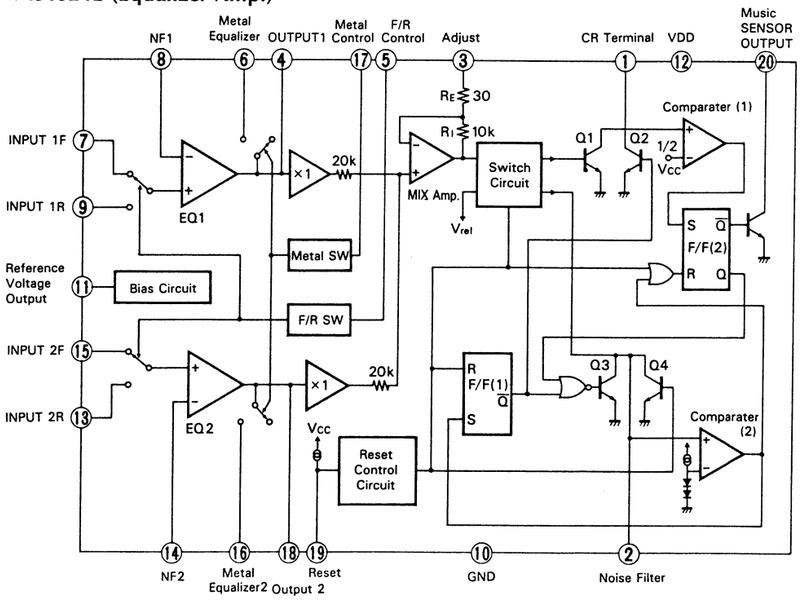
•μPC1284G (Dolby B Type)



•LA3607 (7 Band Graphic Equalizer)



•M51524L (Equalizer Amp.)



•μPD7506CT (Deck Control)

Pin No.	Name		Function
1	SOL1	OUTPUT	Mechanism solenoid control terminal. At "H" in active status.
2	X2	———	N.C.
3	TUNER IN	INPUT	Radio input terminal. If set to "L", PLAY, FF, REW modes change to STOP mode. However this input terminal is not checked during mode changeover operations.
4	DECK OUT	OUTPUT	Deck mode output terminal. At "H" during PLAY, FF, REW modes, but at "L" when radio is inputted.
5	MUTE	OUTPUT	At "L" during stable PLAY operation but at "H" except above.
6	FWD IND	OUTPUT	At "H" in PLAY, FF, REW modes when mechanism is in FWD status.
7	REV IND	OUTPUT	At "H" in PLAY, FF, REW modes and when mechanism is in FWD status.
8	EJ-END/ APC-IN	INPUT	During eject operation, this terminal serves as an eject end detection terminal. Eject end is detected at the leading edge of a pulse which has once fallen and then rises again. In FF, REW mode, this terminal serves as a music intermission check terminal. If set to "L", the mode immediately changes to PLAY (in APC mode).
9	METAL	INPUT/ OUTPUT	METAL-SW status is inputted immediately after loading end and the initial PLAY after Acc has been turned on. If at "L" NORMAL mode is determined; at "H" METAL mode is determined. After tape determination, this terminal serves as an output termnal. "L" is outputted in NORMAL and "H" is outputted in METAL mode till eject end.
10	F/R	INPUT	Mechanism run-direction detection terminal. At "H" in FWD and at "L" in REV.
11	TAPE END	INPUT	Tape end detection terminal. If set to "L", this indicate tape end.
12	CL1	———	Terminal for connecting a resistor R for RC oscillator. (Capacitor is built-in).
13	CL2	———	Terminal for connecting a resistor R for RC oscillator. (Capacitor is built-in).
14	VDD	———	Positive voltage supply terminal.
15	RESET	INPUT	High-level active reset input terminal.
16	EJECT KEY	INPUT	If set to "L", each mode changes to EJECT.
17	PLAY/ PROG KEY	INPUT	If set to "L" in STOP, FF, REW, each mode changes to PLAY. If set to "L" in PLAY, PROGRAM starts operating to reverse the play direction.
18	REW KEY	INPUT	If set to "L", REW begins in PLAY run direction.
19	FF KEY	INPUT	If set to "L" FF begins in PLAY run direction.
20	APC IND	INPUT	At "H" in music intermission detection mode (APC mode).
21	REW IND	OUTPUT	At "H" when mechanism is in REW.
22	FF IND	OUTPUT	At "H" when mechanism is in FF.
23	BACK-UP	OUTPUT	At "H" only during PROGRAM and EJECT operation. If Acc is turned off, the operation is maintained to the end by back-up supply voltage. The same during head plate forward motion.
24	APC KEY	INPUT	If set to "L", APC mode is set. However, the APC mode is released when changed to "H" and then returned to "L".
25	MOTOR	OUTPUT	Motor control terminal. At "H" in active status.
26	SOL3	OUTPUT	Mechanism solenoid control terminal. At "H" in active status.
27	SOL2	OUTPUT	Mechanism solenoid control terminal. At "H" in active status.
28	Vss	———	Ground

•μPD1708AG-707

<PLL Frequency Synthesizer and Controller>

Terminal No.	Name	Description
37 ~ 52	LCD Segment Output	Output terminals of segment signals to LCD panel. 46-dot display is enabled at maximum on matrix of COM1 and COM2. **Note:** An "L" level signal is automatically output (Display-off mode) when power is turned on (VDD changes from "L" to "H") and when CKSTP instruction is being executed.
5, 6	LCD Common Output	Output terminals of common signals to LCD panel. 46-dot display is enabled at maximum on matrix of LCD1 to LCD23. Three voltage signals GND, 1/2VDD, VDD (5ms intervals) are outputted at 50Hz. Segments having a potential difference ±VDD between these terminals and LCD1 to LCD23 come on. **Note:** An "L" level signal is automatically output (Display-off mode) when power is turned on (VDD changes from "L" to "H") and when CKSTP instruction is being executed.
7 ~ 33	Power Supply	A voltage of 5V ± 10% is supplied to these terminals to activate the device. When a voltage of 0 to 4.5V is supplied, the device is reset and program starts from address No. 0.
8	Local Oscillation Signal Input	A local oscillation output (VCO output) from 10 to 150MHz (0.5Vp-p MIN) is input. A fixed 1/2-frequency division prescaler and a 1/32 — 1/33 two-modulus prescaler are incorporated.
9	Local Oscillation Signal Input	A local oscillation output (VCO output) from 0.6 to 50MHz (0.3Vp-p MIN) is input. This terminal is selected and activated when HF instruction is executed in direct frequency division method or pulse swallow method. The upper limit of the input frequency and the lower limit of the division ratio are different between the two frequency division methods.

Division method	Input voltage (MIN)	Input frequency	Division ratio
Direct division	0.1Vp-p	0.59 ~ 20MHz	16 ~ (2^{12}-1)
Pulse swallo (HF instruction execution)	0.1Vp-p	0.6 ~ 40MHz	1024 ~ (2^{12}-1)
	0.3Vp-p	0.6 ~ 50MHz	

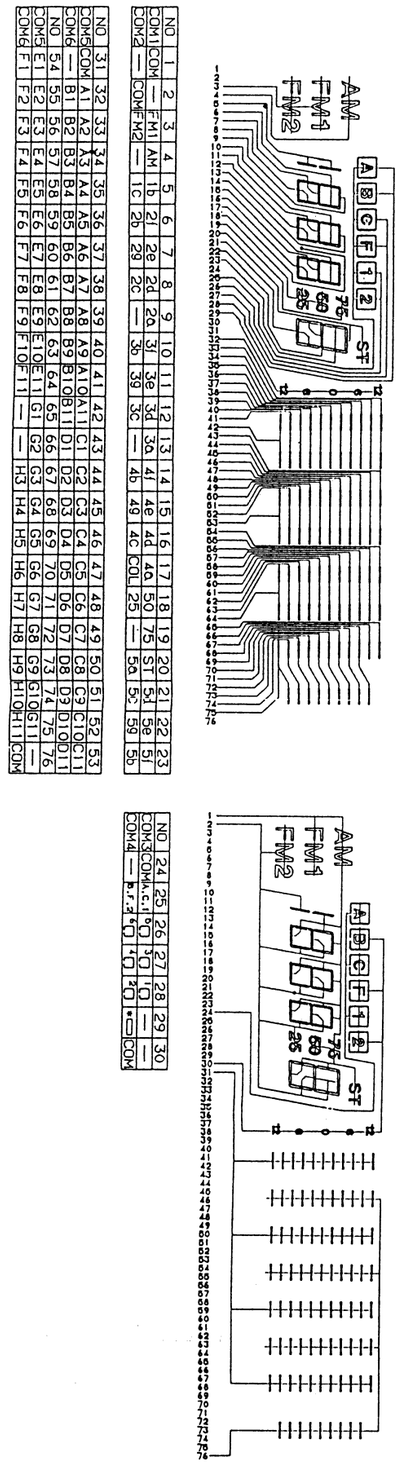
11, 12	Error Outputs	PLL error output terminals. An "H" level is outputted from these terminals when divided local oscillator frequency (VCO output) is higher than the reference frequency, and an "L" level is outputted when lower than the reference frequency. A floating is obtained when VCO output frequency matches the reference frequency. This output is applied to a varactor diode via an external low pass filter.
13	Chip Enable	An "H" level is applied to activate the device and an "L" level is applied to deactivate the device. When the CE terminal is changed from "L" to "H", the device is reset to start program beginning from address No. 0. Further, in this status, 1/0 port (Port A) is set to and input mode.
15, 16	X'tal	A 4.5MHz crystal is connected.
17 ~ 20	Port A	4-bit input/output port.
21 ~ 24	Key Return Signal Inputs	4-bit input ports. Ordinarily used as a key matrix input terminals. When a KIN instruction or K1 instruction is executed, the level of these terminals are read into data memory (RAM) designated by the operand.
25 ~ 28	Port B	4-bit output ports. Usable as key return signal source for key matrix.
29 ~ 32	Port C	4-bit output ports.

•LCD-9470MJ Terminal Function

NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
COM1	COM	—	FM1	AM	1b	2j	2e	2d	2a	3f	3e	3d	3a	4f	4e	4d	4a	50	75	ST	5k	5e	5f
COM2	—	COM	FM2	—	1c	2b	2g	2c	—	3b	3g	3c	—	4b	4g	4c	COL	25	—	5a	5c	5g	5b

NO	24	25	26	27	28	29	30
COM3	COM	a.c.i	1Ω	3Ω	1Ω	—	—
COM4	—	a.r.a	1Ω	1Ω	2Ω	COM	

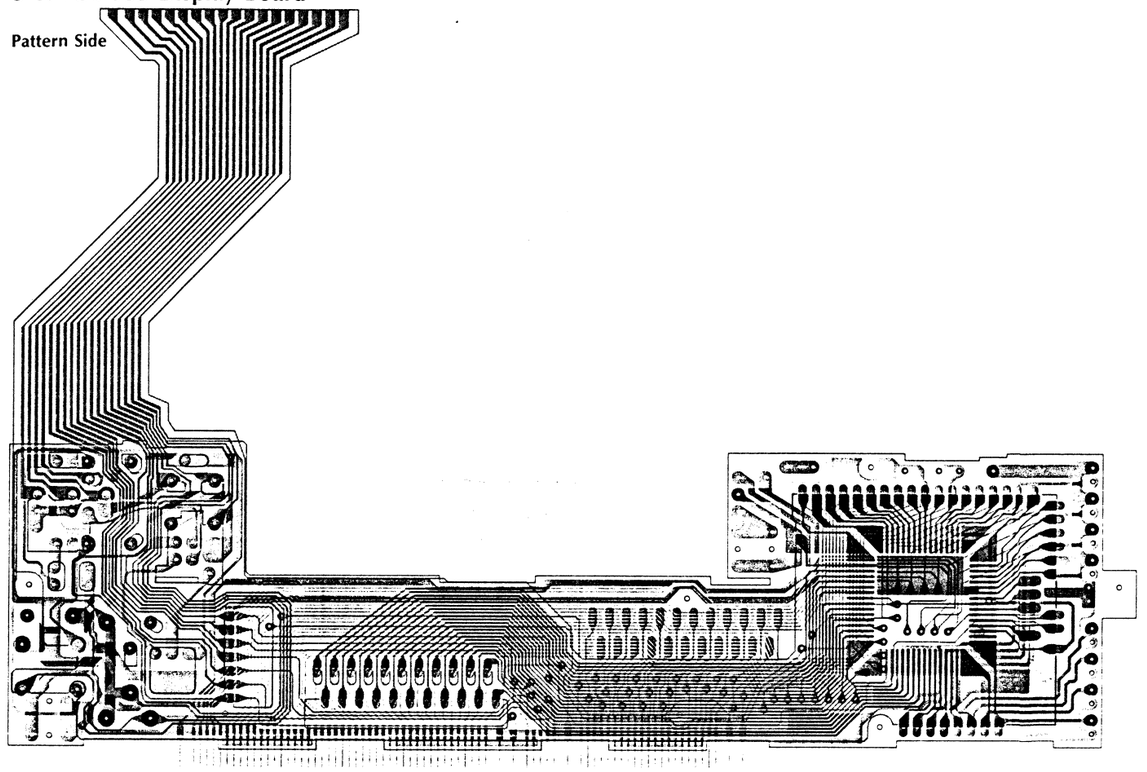
NO	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
COM5	COM	A1	A2	X3	A4	A5	A6	A7	A8	A9	A10	A11	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11
COM6	—	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11
NO	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76
COM3	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	G11	—
COM6	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	—	—	H3	H4	H5	H6	H7	H8	H9	H10	H11	COM



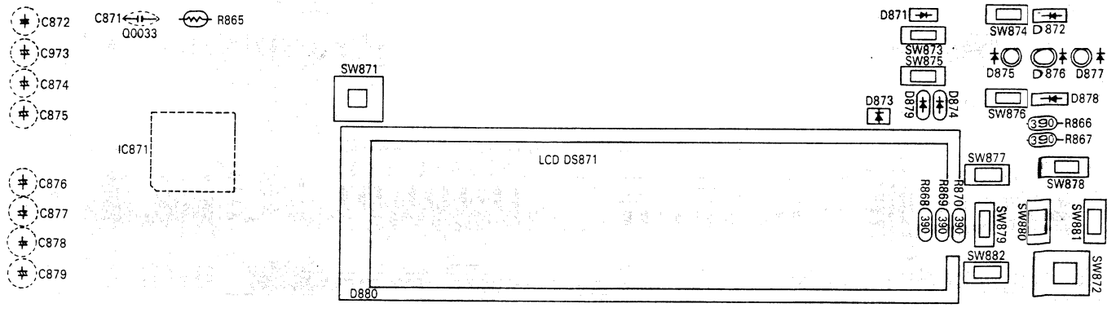
5. PARTS LOCATION OF CIRCUIT BOARD

5-1. PCB-953 Display Board

Pattern Side

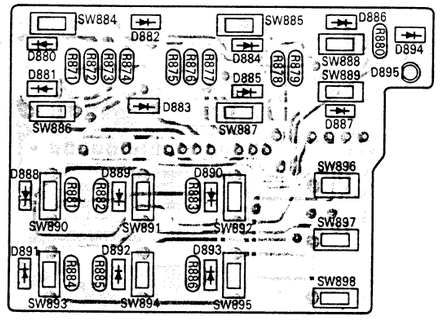


Component Side

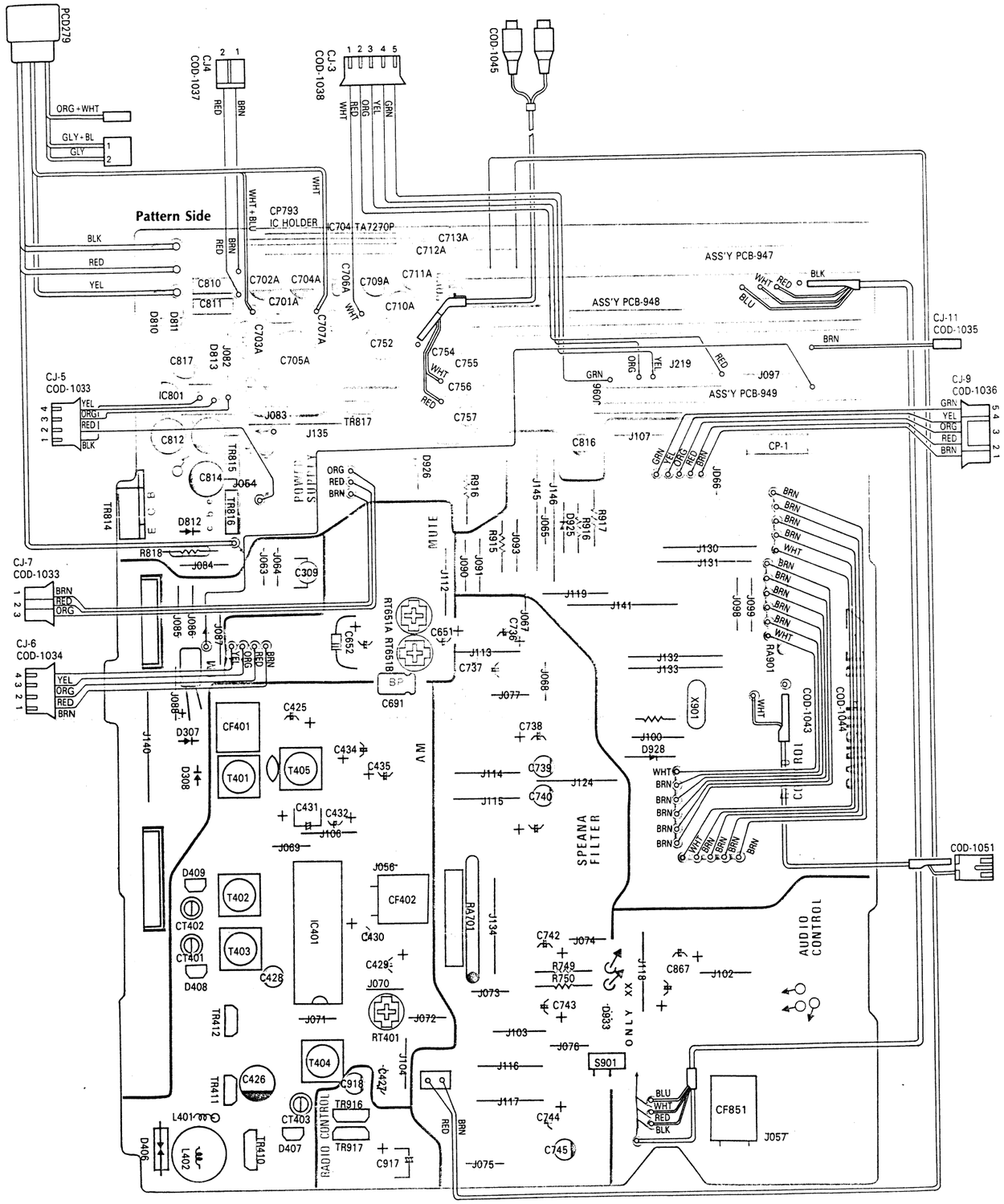


5-2. PCB-952 Switch Board

Component Side



5-3. PCB-946 Main Board


Pattern Side
PCD279
CJ-4 COD-1037
CJ-3 COD-1038
COD-1045
ORG+WHT
GLY+BL
GLY
RED
BRN
WHT
ORG
YEL
GRN
WHT+BLU
CP793 IC HOLDER
IC704 TA7270P
C713A
C712A
C711A
C710A
C709A
C706A
C704A
C702A
C701A
C810
C811
C707A
C703A
C705A
C752
C754
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C428
C427
C426
C918
C917
C744
C745
C742
C743
C749
C750
C867
C738
ASS'Y PCB-947
ASS'Y PCB-948
ASS'Y PCB-949
CJ-11 COD-1035
CJ-9 COD-1036
CJ-5 COD-1033
CJ-7 COD-1033
CJ-6 COD-1034
COD-1043
COD-1044
COD-1051
J219
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RA701
X901
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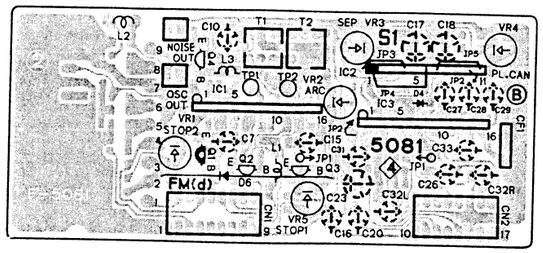
5-4. F-5081 FM Tuner Board

Pattern Side



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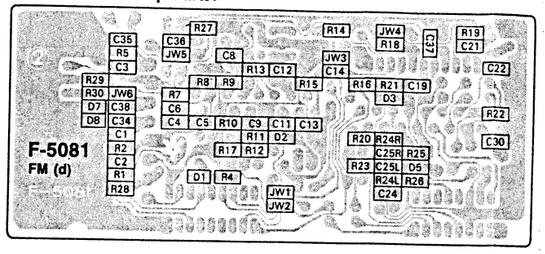
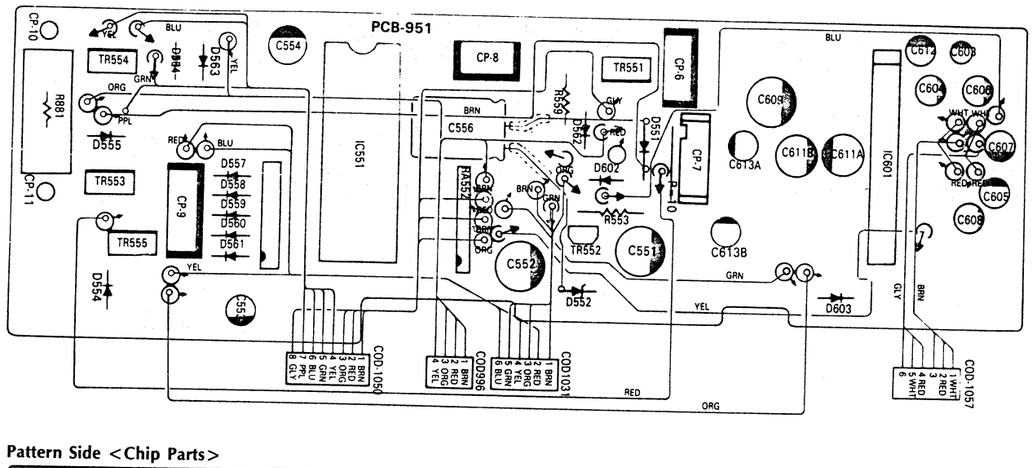


5-5. PCB-951 Deck Board

Pattern Side



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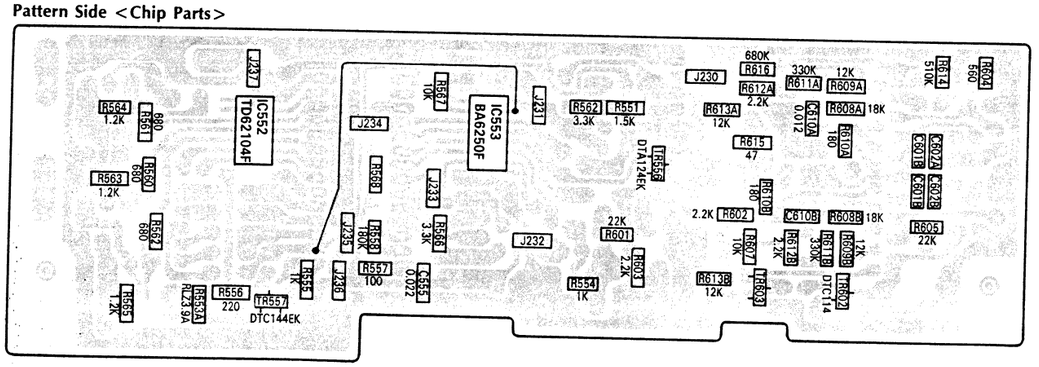
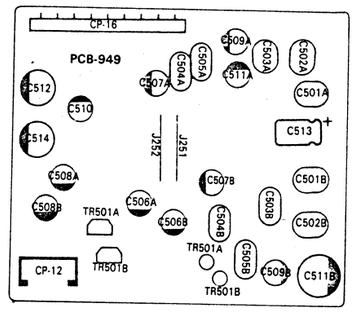
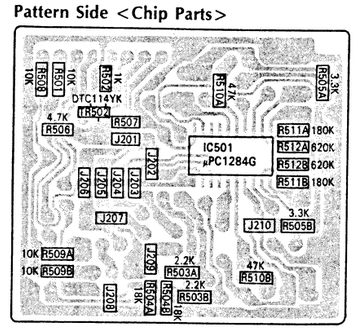


5-6. PCB-949 Dolby Board

Pattern Side

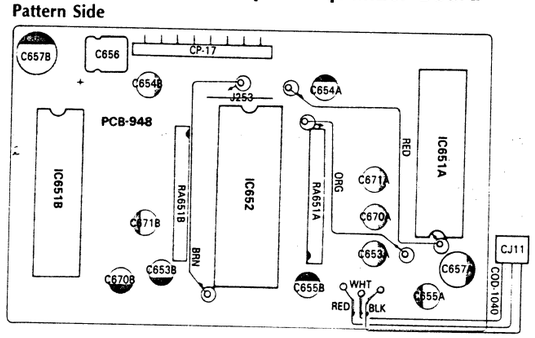


Pattern Side <Chip Parts>

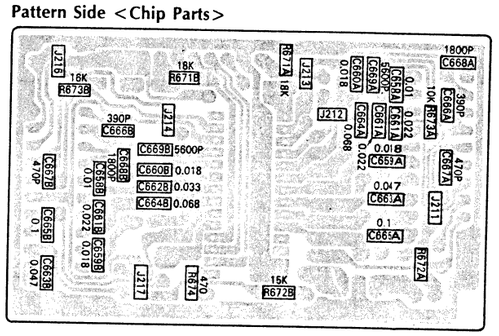


5-7. PCB-948 Electrical Graphic Equalizer Board

Pattern Side

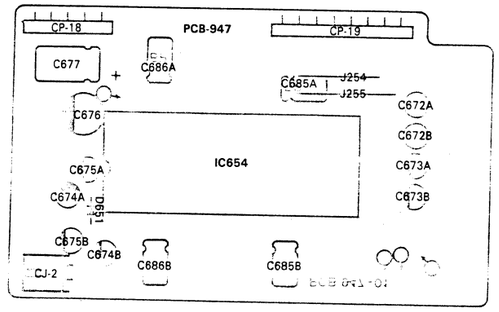


Pattern Side <Chip Parts>

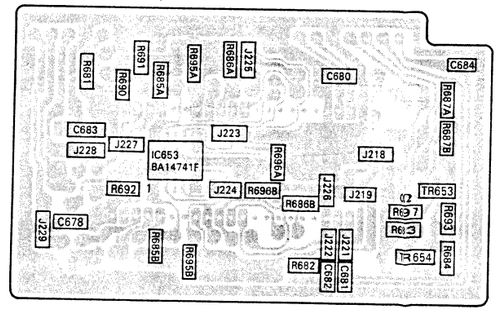


5-8. PCB-947 Electrical Volume Board

Pattern Side

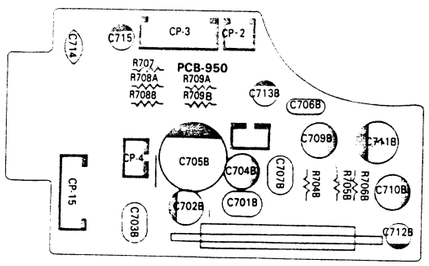


Pattern Side <Chip Parts>

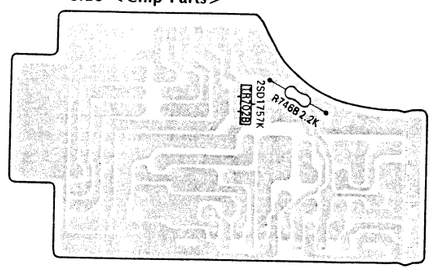


5-9. PCB-950 Power Amp. Board

Pattern Side



Pattern Side <Chip Parts>



6. PARTS LIST OF CIRCUIT BOARD

NOTE

1. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors and resistors, which was issued on June 1987.
2. Abbreviations in this service manual are as follows.

•Abbreviations List

C.R.	: Carbon Resistor	E.B.L.	: Low Leak Bi-Polar Electrolytic Capacitor
S.R.	: Solid Resistor	Ta.C.	: Tantalum Capacitor
Ce.R.	: Cement Resistor	F.C.	: Film Capacitor
M.R.	: Metal Film Resistor	M.P.	: Metalized Paper Capacitor
F.R.	: Fusing Resistor	P.C.	: Polystyrene Capacitor
N.I.R.	: Non-Inflammable Resistor	M.M.C.	: Metalized Mylar Condenser
A.R.	: Array Resistor	A.C.	: Array Capacitor
C.C.	: Ceramic Capacitor	V.R.	: Variable Resistor
C.T.	: Ceramic Capacitor, Temperature Compensation	S.V.R.	: Semi Variable Resistor
E.C.	: Electrolytic Capacitor	SW.	: Switch
E.L.	: Low Leak Electrolytic Capacitor	Chip R.	: Chip Resistor
E.B.	: Bi-Polar Electrolytic Capacitor	Chip C.	: Chip Capacitor

3. The symbols, ASE & XX <EXPORT> on the parts list and the schematic diagram mean followings respectivelly.
   ASE ..... Manufactured for Asia market.
   XX <EXPORT> ... Standard Version.
   NON MARK ..... Common Parts.

6-1. PCB-946 Main Board <Stock No. 58438900 = XX> <Stock No. 58439000 = ASE>

Parts No.	Stock No.	Description
•Transistor		
TR301	58421700	2SC1623L
TR401~403	58421300	2SC1623
TR405	58421400	DTC114YK
TR410	48387701	2SC3327 (A, B)
TR411	48198601	2SK519, FET
TR412	03068501	2SC1844
TR651A-B	58421500	2SD1757K
TR652A-B	58421500	2SD1757K
TR701	58422000	DTC123JK
TR702A	58421500	2SD1757K
TR707~714	58421300	2SC1623
TR801	58424700	DTC144EK
TR802,	58421700	2SC1623L
TR803,804	58422800	2SA1036K
TR805	58421700	2SC1623L
TR806	58421400	DTC114YK
TR807	58421500	2SD1757K
TR808	58421700	2SC1623L
TR809	58421400	DTC114YK
TR810	58413200	DTC114TK
TR814	58422400	2SC3420GR
TR815	58422500	2SD1758
TR816	58423800	2SB1182
TR817	46078801	2SC2458
TR851~854	58421400	DTC114YK
TR856	58413200	DTC114TK
TR901, 902	58421600	DTA144EK
TR903	58424800	DTA144TK
TR904	58421700	2SC1623L
TR905~912	58421600	DTA144EK
TR916, 917	58069400	2SD1012
•IC		
IC401	46669000	LA1135
IC701	58411800	TA7270P
IC711, 712	58423300	BA14741AF
IC751	58422200	μPD4558G
IC801	58407000	TA78L-05P
IC851	58421800	LC5814H
IC901	48841510	μPD1708AG-707
•Diode		
D301, 302	46852000	RLS-73
D307, 308	48836700	ISS176
D401	46852000	RLS-73
D406	58405500	DSP-201N
D407~409	46835100	ISV149
D652	46852000	RLS-73
D701	48821100	RLZ-7.5B
D801	48822000	RLZ10B
D802~804	46852000	RLZ-73
D805	48819700	RLZ4.7C
D807	48822000	RLZ10B
D810~813	58422300	S5688G
D814, 815	46852000	RLS-73
D851	48818900	RLZ-3.6B
D853~856	46852000	RLS-73
D901~924	46852000	RLS-73
D925	03111800	IS1588
D926	03185800	RD5,1E
D929	46852000	RLS-73
D928	48836700	ISS176
D929	46852000	RLS-73
D930	03111800	IS1588
C309	07213600	0.022μF 25V C.C
C433	07213600	0.022μF 25V C.C.
C701A	48325600	0.1μF 50V F.C.
C703A	46692300	0.15μF 50V F.C.
C706A	48320800	0.001μF 50V F.C.
C707A	46692300	0.15μF 50V F.C.
C918	58428300	0.1μF 16V T.C.
CT401, 402	46162800	Trimmer Capacitor, 20PF
CT403	46162900	Trimmer Capacitor, 30PF
R666	46482800	180kΩ 1/6W C.R.
R818, 819	46401600	4.7Ω 1/2W N.I.R.
R888	46479800	10kΩ 1/6W C.R.
RA749, 750	48018000	100kΩ 1/4W C.R.
R915	48015600	10kΩ 1/4W C.R.
R916	48013200	1kΩ 1/4W C.R.
R917	48018000	100kΩ 1/4W C.R.
R919	46481600	56kΩ 1/6W C.R.
RA701	58424900	47kΩx8 A.R.
RA901	58080900	22kΩx6 A.R.
RT401	58210400	10kΩ S.V.R., Scan Stop
RT651A, B	58210400	10kΩ S.V.R., P.B Level
S9001	58071800	Slide Switch, 9k/10k <XX only>
T401	58425700	IF Coil, S7AC-1750N
T402	58425600	RF Coil, S7BR-1752X
T403	58425500	RF Coil, S7BR-1749F
T404	58425900	OSC Coil
T405	58425800	IF Coil
L401	46167600	ANT Coil 100μH
L402	46838300	3.3mH Coil
X901	46253600	X'tal 4.5mHz
CF851	58421900	Ceramix Resonator, KBR-10.0B
C810, 811	58422100	Filter, EXC-EMT102

6-2. F-5081 FM Tuner Board <Stock No. 01008001=XX> <Stock No. 01008007=ASE>

Parts No.	Stock No.	Description
dZ1	48490500	FM Fronted Pack
•Transistor		
dQ2	46367101	2SC2603
	or 46367301	2SC2458
dQ3	46719900	DTC124ES
•IC		
dIC1	46465000	LA1140
dIC2	48499000	NC3S301
dIC3	48270500	LA3430
dCF1	48272800	CSB456 Ceramic OSC Element
•Diode		
dD2	46852000	RLS-73
dD3	46852000	RLS-73
dD4	46852000	RLS-73
dD5	46852000	RLS-73
dD6	03401700	Varistor MV103
dD7	46852000	RLS-73
dD8	46852000	RLS-73
dL1	48286100	22μH Inductor
dL2	48284900	2.2mH Inductor
dT1	48449000	FM IF Coil
dT2	48449100	FM IF Coil
dVR2	46839700	22kΩ S.V.R., Auto Noise
dVR3	46839600	10kΩ S.V.R., Separation
dVR4	46839800	47kΩ S.V.R., Pilont Canceller
dVR5	46839800	47kΩ S.V.R., Local Auto Stop Level Adj.

6-3. PCB-947 Electrical Volume Board <Stock No. 58426100>

Parts No.	Stock No.	Description
•Transistor		
TR653, 654	58421700	2SC1623L
•IC		
IC653	58423300	BA14741AF
IC654	58423400	LC7537N
•Diode		
D651	48836700	ISS176
C685A, B	00405000	0.0033μF 100V F.C.
C686A, B	00409400	0.22μF 100V F.C.

6-4. PCB-948 Electrical Graphic Equalizer Board <Stock No. 58426200>

Parts No.	Stock No.	Description
•IC		
IC651A•B	58423200	LA3607M
IC652	48238500	LC7523
RA615A•B	58425000	1MΩx7 1/10W A.R.

6-5. PCB-949 Dolby Board <Stock No. 58426300>

Parts No.	Stock No.	Description
•Transistor		
TR501A•B	58423100	2SD1012F
TR502	58421400	DTC114YK
•IC		
IC501	58423000	μPC1284G
C501A, B	48477900	0.1μF 63V F.C.
C502A, B	48478700	0.47μF 63V F.C.
C503A, B	00407800	0.047μF 100V F.C.
C504A, B	00407400	0.033μF 100V F.C.
C505A, B	00405400	0.0047μF 100V F.C.

6-6. PCB-950 Power Amp. Board <Stock No. 58426400>

Parts No.	Stock No.	Description
•Transistor		
TR702B	58421500	2SD1757K
•IC		
IC701B	58411900	TA7271P
C701B	00408600	0.1μF 100V F.C.
C706B	00403800	0.001μF 100V F.C.
C710B, 711B	00409000	0.15μF 100V F.C.
C714	07213600	0.022μF 25V F.C.
R704B, 705B	46475100	100Ω 1/6W C.R.
R706B	46477400	1kΩ 1/6W C.R.
R708A, B	46478000	1.8kΩ 1/6W C.R.
R709A, B	46481400	47kΩ 1/6W C.R.
R707	46476500	390Ω 1/6W C.R.

6-7. PCB-951 Deck Control Board <Stock No. 58426500>

Parts No.	Stock No.	Description
•Transistor		
TR551	48518501	2SB1184
TR552	46078801	2SC2458
TR553	58423900	2SB1181
TR554, 555	58423800	2SB1182
TR556	58424000	DTA124EK
TR557	58424700	DTC144EK
TR602	58428000	DTC144TK
TR603	58421400	DTC114YK
•IC		
IC551	58422900	μPD7506
IC552	58423600	TD62104F
IC553	58423700	BA6250F
IC601	58423500	M51524L
•Diode		
D551	58405900	S5566G
D558	48819000	RLZ3.9A
D554 ~ 563	48836700	ISS176
D601 ~ 603	48836700	ISS176
•Zener Diode		
	48532500	MTZ5.6A
	46852000	RLS-73
RA551	58428100	4.7kΩx4 A.R.
RA552	58428200	22kΩx4 A.R.
R553	00199900	100Ω 1/4W M.R.
R559	48013800	1.8kΩ 1/4W C.R.
R881	58425100	22Ω 3W Ce.R.

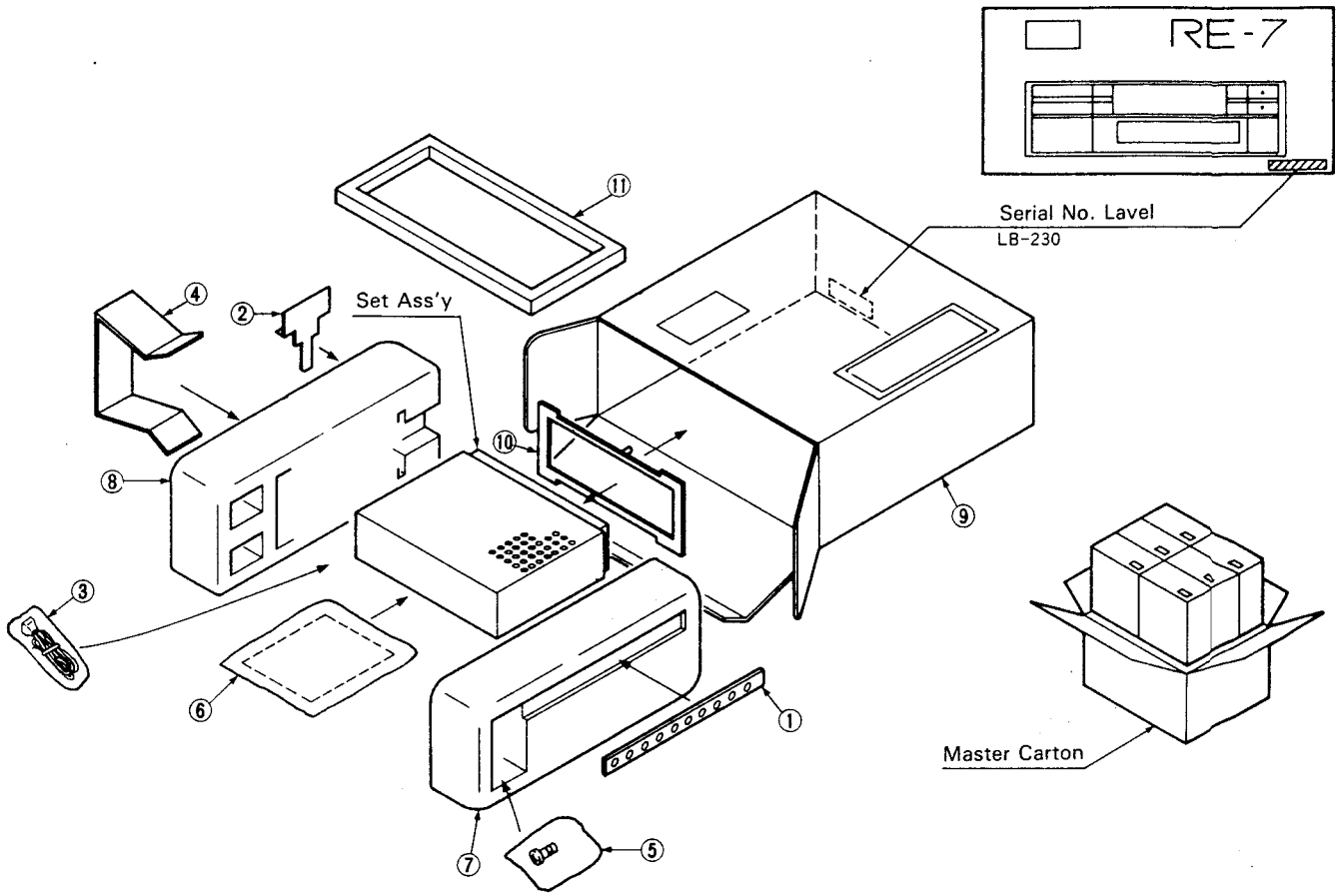
6-8. PCB-952 Switch Board <Stock No. 58426600>

Parts No.	Stock No.	Description
•LED		
D880 ~ 893	58424200	GL9HY-44
D894	58424300	GL9HD-44
D895	58424600	GL3PG5
R871, 872	46476500	390Ω 1/6W C.R.
R875, 876	46476500	390Ω 1/6W C.R.
R878, 879	46476500	390Ω 1/6W C.R.
R882 ~ 887	46476500	390Ω 1/6W C.R.
R873, 874	46476300	330Ω 1/6W C.R.
R879	46476300	330Ω 1/6W C.R.
R880	46476300	330Ω 1/6W C.R.
SW884	58071900	Tact SW., ▲
SW885	58071900	Tact SW., ▼
SW886	58071900	Tact SW., ▲▲
SW887	58071900	Tact SW., ▼▼
SW888	58071900	Tact SW., P. SCAN
SW889	58071900	Tact SW., ~~tGII~~
SW890	58071900	Tact SW., M1
SW891	58071900	Tact SW., M2
SW892	58071900	Tact SW., M3
SW893	58071900	Tact SW., M4
SW894	58071900	Tact SW., M5
SW895	58071900	Tact SW., M6
SW896	58071900	Tact SW., MW
SW897	58071900	Tact SW., FM
SW898	58071900	Tact SW., INTRO-M

6-9. PCB-953 Display Board <Stock No. 58426700>

Parts No.	Stock No.	Description
•IC		
IC871	48943200	LC7560
•LED		
D871 ~ 874	58424200	GL9HY-44
D875 ~ 877	58424100	GL3HY5
D878	58424200	GL9HY-44
D879	58424300	GL9HD-44
D880	58424500	SLF-528D, LED Back Light
•LCD Display		
DS871	58424400	LCD-9470MJ
R865	46481900	75kΩ 1/6W C.R.
R866 ~ 869	46476500	390Ω 1/6W C.R.
R870	46477400	1kΩ 1/6W C.R.
C871	07212600	0.0033μF 25V C.C.
SW871	58072000	Push SW., DOLBY
SW872	58072000	Push SW., POWER SW
SW873	58071900	Tact SW., SE
SW874	58071900	Tact SW., ▲
SW875	58071900	Tact SW., MUTE (⊂∈)
SW876	58071900	Tact SW., ▼
SW877	58071900	Tact SW., G EQ UP
SW878	58071900	Tact SW., EQ-MENU
SW879	58071900	Tact SW., G. EQ F REQ. BAND
SW880	58071900	Tact SW., ME
SW881	58071900	Tact SW., DISP
SW882	58071900	Tact SW., G. EQ. DOWN

7. PACKING & ACCESSORY LIST

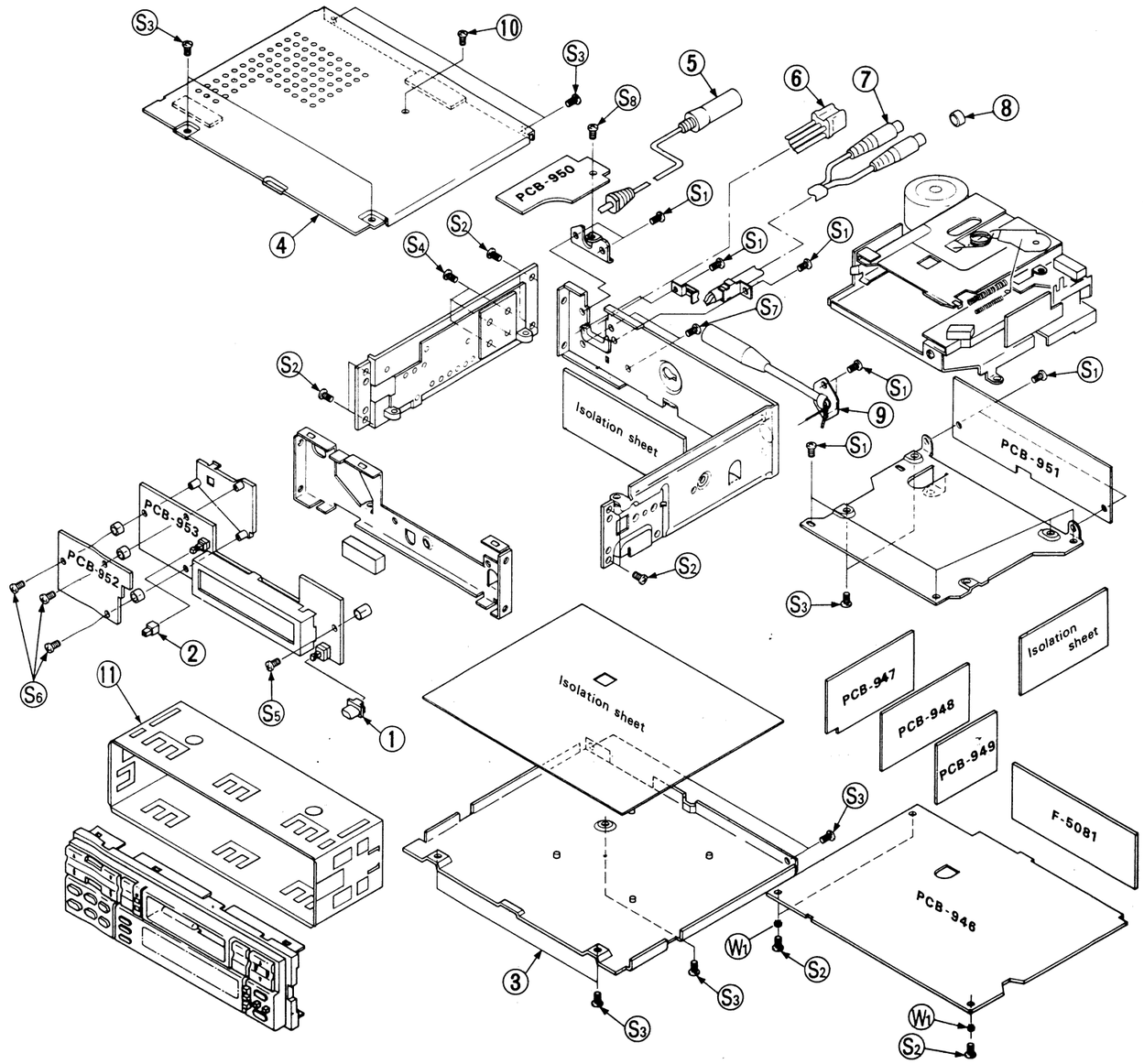


Parts List

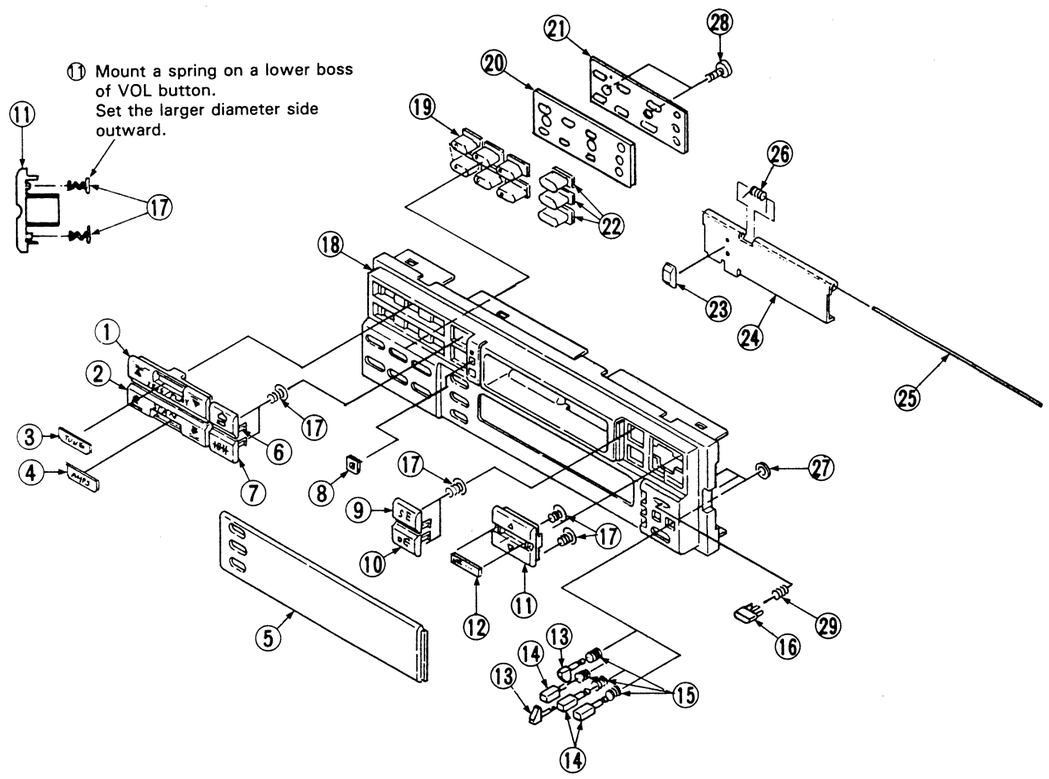
Parts No.	Stock No.	Description	
1	58073800	Metal Mounting Strap	
2	47348700	Lever	
3	58436200	9P Connector Ass'y	
4	58435900	Rear Bracket	
5	58436100	Screw Kit	
5-1	———	Quick Bolt	1 ea
5-2	———	Tapping Screw, 5x20	2 ea
5-3	———	Rear Bumper	1 ea
6	58436300	Operating Instruction	
7	58417700	Styrofoam Packing Left	
8	58417800	Styrofoam Packing Right	
9	58436400	Carton Case	
10	58417900	Spacer for Packing	
11	58436000	Frame	
	67039900	Vinyl Bag for unit	

8. EXPLODED VIEW & PARTS LIST OF MECHANISM ASS'Y

8-1. Unit Section



8-2. Front Panel Section



Parts List <Unit Section>

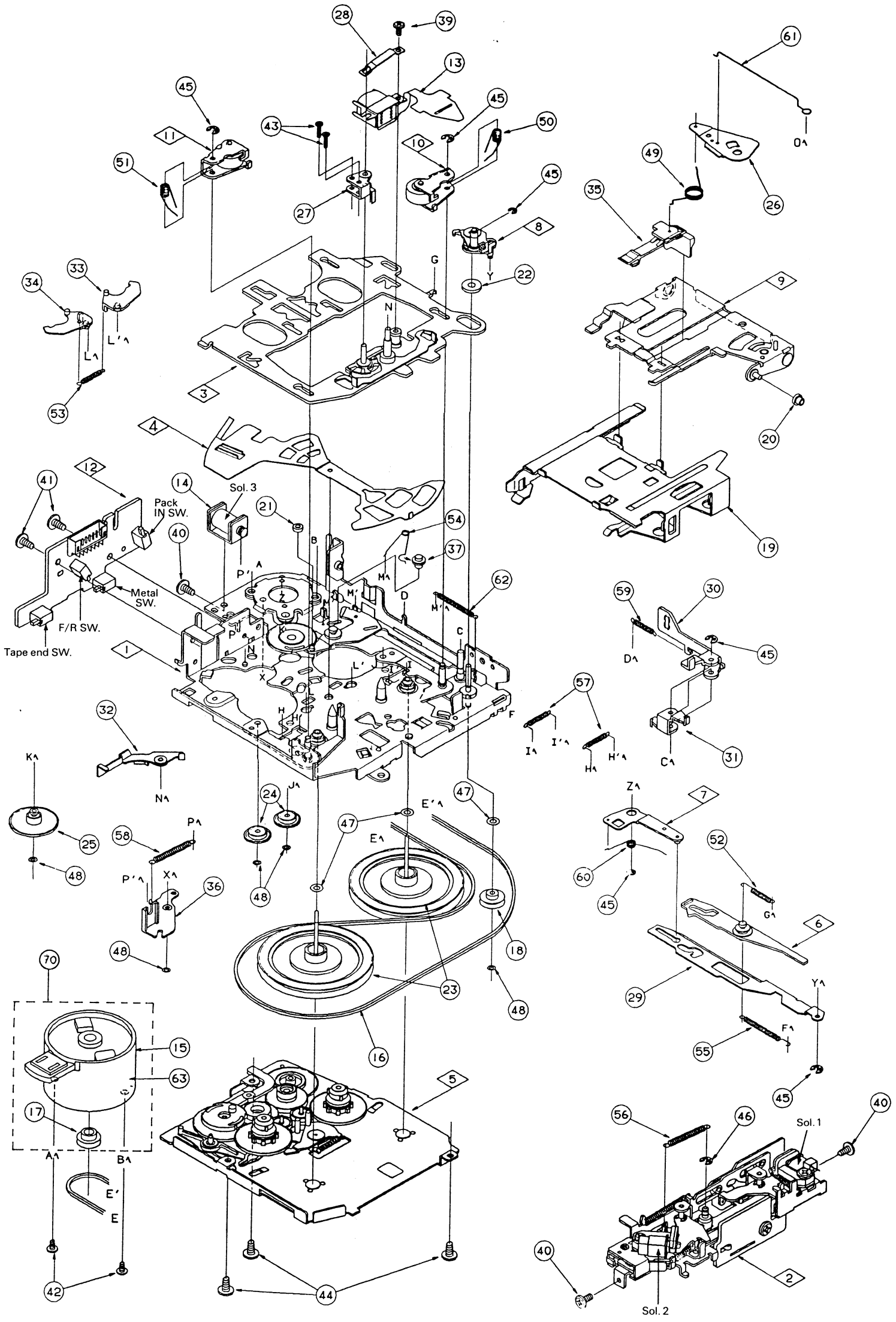
Parts No.	Stock No.	Description
1	58420200	TUNER-ON Button
2	58420300	DOLBY Button
3	58435600	Bottom Plate
4	58421020	Top Plate
5	58427900	DIN Connector
6	58427700	Power Cord Ass'y with 9P Connector
7	58426800	RCA Cord
8	58410800	RCA Cord Cap
9	58427800	ANT Jack
10	58421200	Transist Screw
11	47345410	Mounting Sleeve

Parts List <Screw & Washer>

Parts No.	Stock No.	Description
S1	08322000	Binding Screw, 3x5
S2	46267700	Binding Screw, 3x6
S3	00421800	Binding Screw, 3x4
S4	00422200	Binding Screw, 3x12
S5	00420900	Pan Head Screw, 2x12
S6	00436600	Pan Head Screw, 2x16
S7	46267800	Binding Screw, 3x8
S8	18157100	Pan Head Screw, 2.6x5

Parts List <Front Panel>

Parts No.	Stock No.	Description
(1~29)	58435800	Front Panel Ass'y
1 (3)	58434210	PROG. Button Ass'y
2 (4)	58434310	SCAN Button Ass'y
3	———	Name Plate, TUNE
4	———	Name Plate, AMPS
5	58419400	Front Plate
6	58418710	EJ Botton
7	58418810	T-CALL Button
8	58420600	Name Plate, DOLBY
9	58418910	SE Button
10	58419010	MUTE Button
11 (12)	58434410	VOL Button Ass'y
12	———	Name Plate, VOL
13	58419200	GRAIEQ Button
14	58419300	DISP Button
15	58420100	Button Spring
16	58419100	EQ. MENU Button
17	58403910	Button Spring
18	———	Front Panel
19	58419610	PRESET Button
20	58420800	Button Cashion-A
21	58419700	Button Holder
22	58418600	BAND Button
23	58419500	Door Protector
24 (23)	58435700	Door Ass'y
25	58419900	Door Shaft
26	58401100	Door Spring
27	37048500	Poly Washer 1.6P
28	58433500	Tapping Screw, 2x4
29	58420000	CSP Spring



8-3. Mechanism Ass'y Section

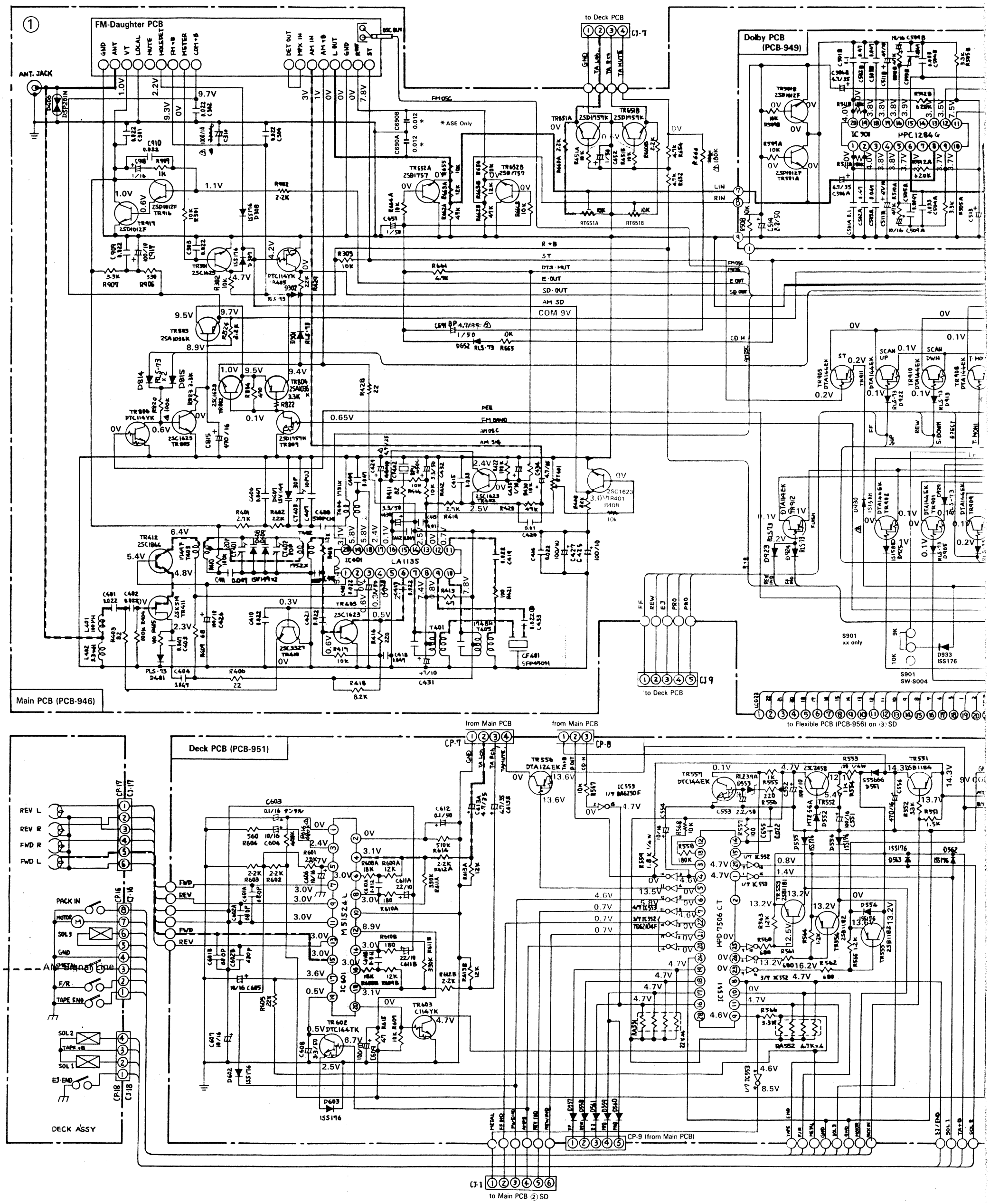
Parts List

Parts No.	Stock No.	Description
1	37105400	Mechanism Chassis Ass'y
2	37105500	Frame Sub Ass'y
5	37105600	Bottom Sub-Ass'y
8	37105700	Power Sub-Ass'y
10	37101300	Roller-Ass'y-F
11	37101400	Roller-Ass'y-R
12	37115400	Switch Board Ass'y
13	37105800	Head
14	37105900	Plunger
16	37102000	Belt
18	37102600	Tention Pulley
20	37102100	Roller
21	37106000	Power Roller
22	37106100	Head-P-G-Roller
23	37102300	Flywheel

Parts No.	Stock No.	Description
24	37102400	FF Idler Gear
25	37102500	Gear A
27	37106200	Adjust Arm
28	37106300	Head Spring
35	37102800	Pacle Stopper
37	37106400	Lock Pin
39	37094500	Machine Screw
40	07938100	Machine Screw
41	37106500	Special Screw
42	37103000	Special Screw
43	37106600	Special Screw
44	37103100	Special Screw
45	37103200	E-Ling, 1.5ϕ
46	37103300	E-Ling, 2.0ϕ
47	07938800	Special Washer
48	37095800	Special Washer

Parts No.	Stock No.	Description
49	37103400	Spring
50	37106700	Roller Spring F
51	37106800	Roller Spring R
52	37106900	Over-P-Spring
53	37107000	Brake Spring
54	37107100	Lock Spring
55	37107200	Shift-P-Spring
56	37107300	Click-P-Spring
57	37107400	FF Gear Spring
58	37107500	PL-P-Spring
59	37107600	OFF-A-Spring
60	37107700	Assist-P-Spring
61	37107800	Eject Rod
62	37107900	Power-P-Spring
70	37108000	Motor Ass'y (include No. 15, 17, 63)

9. SCHEMATIC DIAGRAM 9-1. AM Tuner, Amp. & Cassette Deck Section



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* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

Graphic EQ PCB (PCB-948)

CJ-3 to Power Amp PCB on ② SD

CJ-8 to Deck PCB

Flexible PCB (PCB-954) to ③ SD

IC 901 μPD 7808 AG-787

IC 851 LC 5814 H

IC 652 LC 7523

IC 651 LA 3607

IC 801 TA78L05

TR901 DTC144EK

TR902 DTA144EK

TR903 DTA124EK

TR904 2SC1623

TR905 2SB1588

TR906 DTA144EK

TR907 DTA144EK

TR908 DTA144EK

TR801 DTC144EK

TR802 DTC114YK

TR803 DTC114YK

TR804 DTC114YK

TR805 2SB1588

TR806 2SB1588

TR807 2SB1182

TR808 2SD1623

TR809 DTC114TK

TR810 DTC114TK

TR811 2SC3420

TR812 2SC2458

TR813 2SC2458

TR814 2SB1182

TR815 2SB1588

TR816 2SB1182

TR851 DTC144EK

TR852 DTC144YK

TR853 DTC144YK

TR854 DTC144YK

TR855 DTC144YK

TR856 DTC144TK

TR857 DTC123JK

D901 RLZ7.5B

D902 RLZ4.7C

D903 RLS73

D904 RLS73

D905 RLS73

D906 RLS73

D907 RLS73

D908 RLS73

D909 RLS73

D910 RLS73

D911 RLS73

D912 RLS73

D913 RLS73

D914 RLS73

D915 RLS73

D916 RLS73

D917 RLS73

D918 RLS73

D919 RLS73

D920 RLS73

D921 RLS73

D926 RD5.1ESB5

D927 RLS73

D933 ISS176

D562 ISS176

D801 RLZ10B

D802 RLZ4.7C

D803 RLZ4.7C

D804 RLZ4.7C

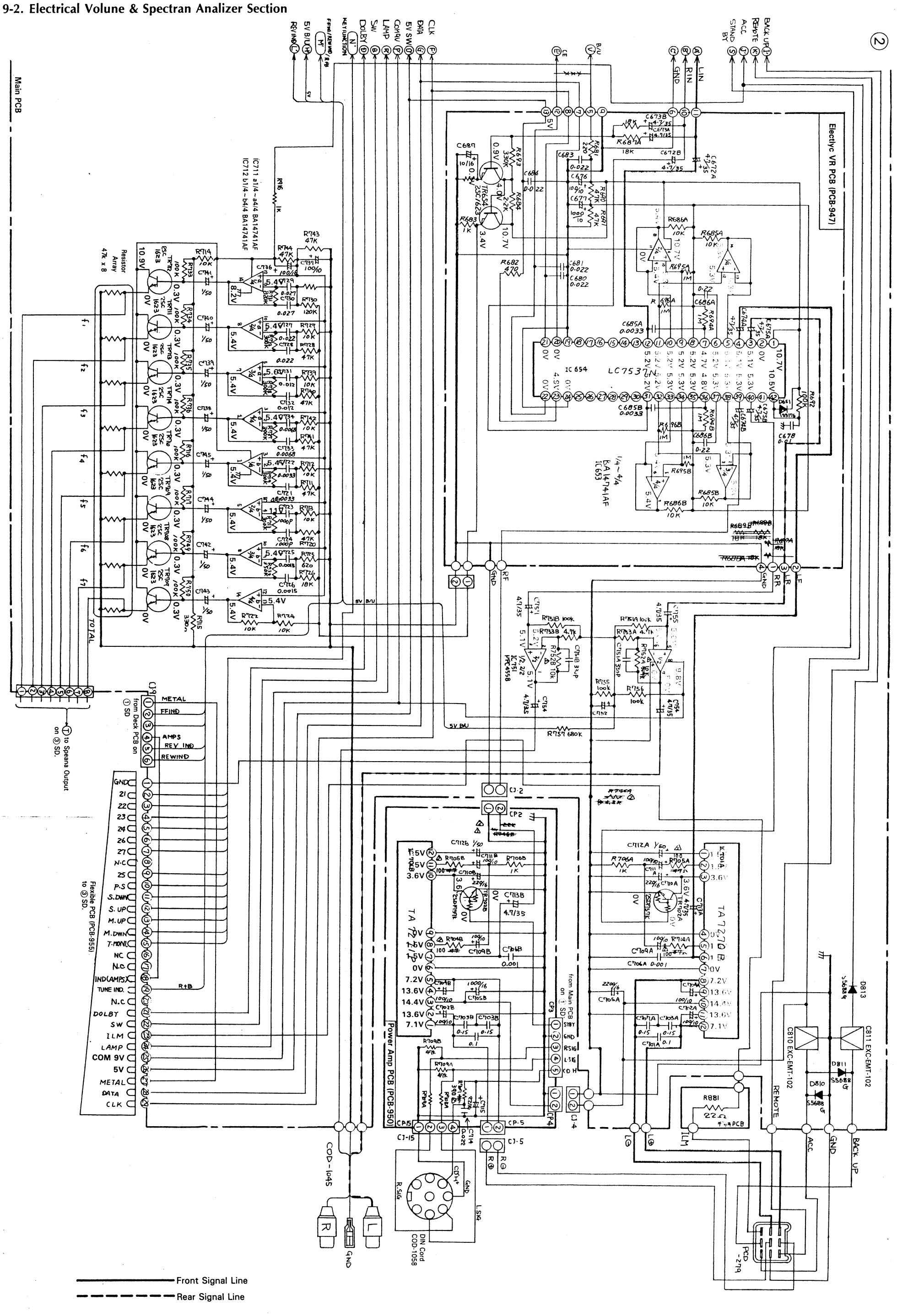
D805 RLZ4.7C

D807 RLZ10B

2SA1036	2SB1182 2SB1184 2SD1758	2SC3420	DTA124EK DTA144EK DTC114YK DTC124ES DTC144JK	μPC1284G μPC4558 BA14741F LA1135 LA3607 LC7523 LC7537N TD62104F	μPD1708AG-707 μPD7506C LC5814H LC7560	TA7270P TA7271P	1S1588 1SS176 S5566G
2SA1036K 2SC1623 2SD1757K DTC123JK	2S2458 2SC2603	2SD1012F	LA1140 LA3430 M57524L		TA78L05	NC3S301	MTZ56A RD5.1ESB5 RLZ4.9C RLZ108
						RLS73 RLZ3.9A	

A	B	C	D	E	F

9-2. Electrical Volune & Spectran Analizer Section



Front Signal Line

Rear Signal Line

9-3. Key Switch Circuit Section

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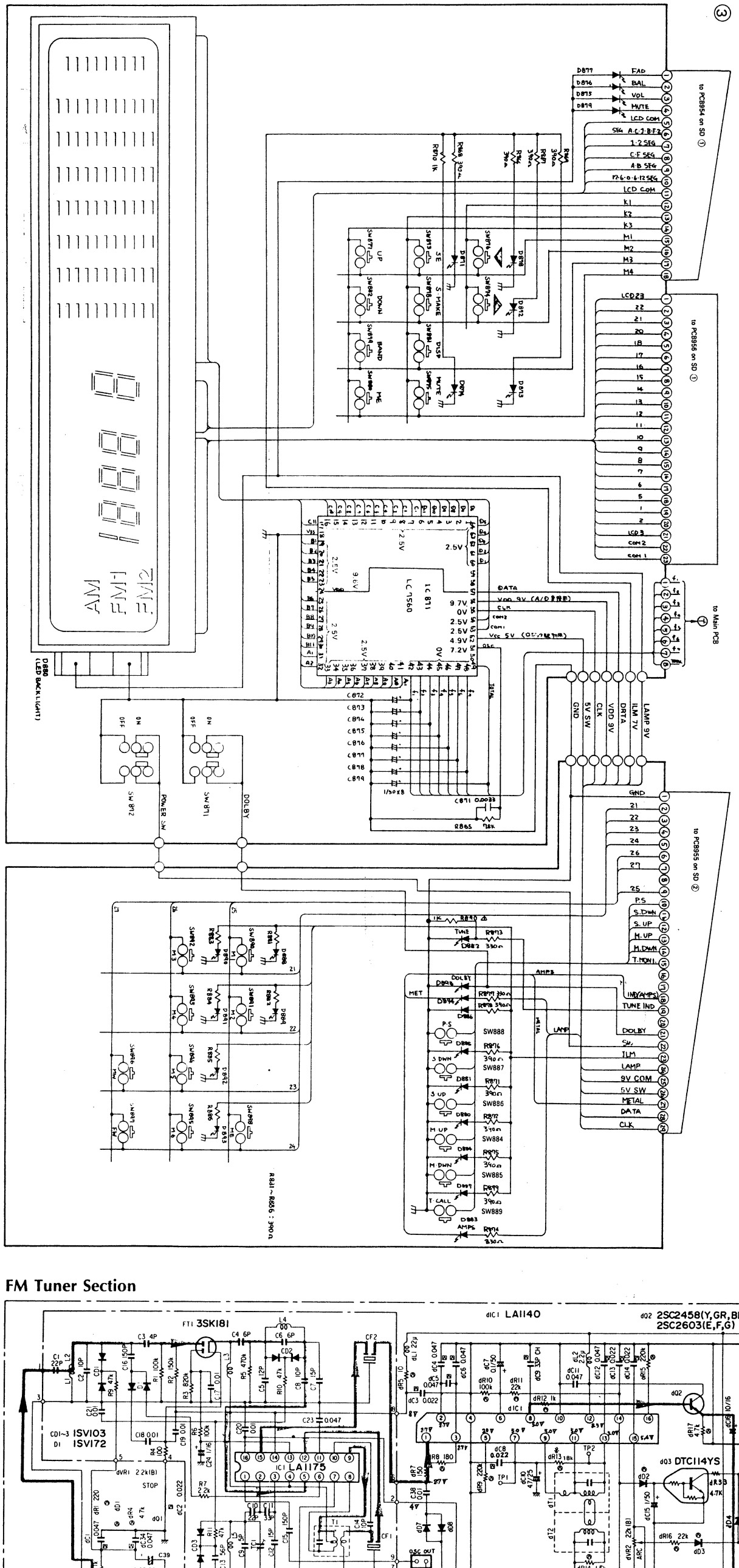
* Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



2SA1435 2SB1182 2SB1184 2SD1758
2SC3420 DTA124EK DTA144EK DTC114YK DTC124ES DTC144JK
2S2458 2SC2603
2SD1012F 2SA1036K 2SC1623 2SD1757K DTC123JK
μPC1284G μPC4558 BA14741F LA1135 LA3607 LC7523 LC7537N TD62104F LA1140 LA3430 M57524L
μPD1708AG-707 μPD7506C LC5814H LC7560
TA7270P TA7271P RLS73 RLZ3.9A
NC3S301 1S1588 1SS176 S5566G
TA78L05 MIZ56A RD5.1ESB5 RLZ4.9C RLZ108

9-4. FM Tuner Section

to Main PCB(PCB 946) on page 18

to Main PCB(PCB-946) on page 18

10. HOW TO REPLACE MAIN PARTS

A. Bonnet (Refer to Fig. 10-2)

1) Remove four screws ⑤1 (⑤2 is transit screw).

B. Bottom Plate Ass'y (Refer to Exploded View of Set Section)

1) Remove five screws ⑤3.

C. Front Panel Ass'y (Refer to Fig. 10-2)

1) Remove the bonnet.
2) Remove the bottom plate.
3) Unhook three portion at top side and two portion at bottom side.
4) Pull front panel toward you.

D. Mechanism Ass'y (Refer to Fig. 10-2 & Exploded View of Set)

1) Remove the bonnet
2) Remove a screw ⑤3 fastening bottom plate and mechanism ass'y.
3) Remove three screws ⑤4 fixing deck bracket ㊳ and chassis.
4) Remove four screws ⑤5 fixing deck bracket and mechanism ass'y.
5) Take off three lead connectors extending from mechanism ass'y to circuit board PCB-951.

E. Sub Frame Ass'y ②, Guide Arm Ass'y ⑨ and Pack Guide ⑲ (Refer to Exploded View of Mechanism Ass'y)

1) Remove the mechanism ass'y.
2) Remove the deck bracket.
3) Remove the click spring ㊱.
4) Remove the E type washer ㊻.
5) Remove the eject rod ㊶.
6) Remove two screws ㊵ fastening sub frame ass'y and guide arm ass'y ⑨.
7) Take off the guide frame ass'y.

Note: Don't lose the cassette guide roller ⑳.

8) Take off the pack guide ⑲.

F. Mount of Sub-Frame Ass'y ②, Guide Arm Ass'y ⑨, Pack Guide ⑲ (Refer to Exploded of Mechanism Ass'y & Fig. 10-1, 3)

1) Confirm that they are pack stopper ㉟, spring ㊾ & swing arm ㉖ where they were fastened on the guide arm ass'y ⑨.
2) Assemble guide arm ass'y ⑨ and pack guide ⑲, and engage them at the mechanism chassis. At this time fit the position Ⓐ and Ⓐ' (Refer Fig. 10-1)
3) Assemble the guide arm ass'y ⑨ and sub flame ass'y ② while fitting point Ⓑ, Ⓒ of guide arm ass'y and sub flame ass'y. And slide the off arm ㉚ to the arrow direction, then insert top of the off arm into hole. (point Ⓓ). (Refer Fig. 10-1, 3)
4) Install sub frame by two screws ㊵.
5) Set the eject rod at the sub frame ass'y.
6) Insert top of eject rod into the hole of the swing arm.

G. Motor Ass'y ⑦⓪ (Refer to Exploded View of Mechanism Ass'y)

1) Remove the mechanism ass'y.
2) Remove the deck bracket ㊳.
3) Resold two lead wire from motor terminal.
4) Remove two motor fixing screws ㊷.

H. Pinch Roller Ass'y F ⑩, R ⑪, P.B Head Ass'y ⑬ (Refer to Exploded View of Mechanism Ass'y)

1) Remove the mechanism ass'y.
2) Remove the deck bracket ㊳.
3) Remove the sub frame ass'y ②.
4) Remove the guide arm ass'y ⑨ and pack guide ⑲.
5) Take off E ring ㊺ then remove pinch roller Ⓕ, Ⓡ.
6) Resold film lead wire extending from head ass'y to sub frame ass'y board.
7) Remove the head ass'y fixing screw ㊴.

I. Bottom Sub Ass'y ⑤, Capstan Belt ⑯, Flywheel ㉓, Gear ㉕, Tentsion Pulley ⑱ & FF Idler Gear ㉔. (Refer to Exploded View of Mechanism Ass'y & Fig. 10-4)

1) Remove the mechanism ass'y.
2) Remove the deck bracket.
3) Remove the four bottom sub ass'y fixing screw ㊹.
4) Take off the bottom sub ass'y from mechanism ass'y.
5) Remove capstan belt ⑯ & flyweel ㉓.

Note: Take care not to twist the belt when setting it.

6) Remove Gear Ⓐ, Tension pulley ⑱ & FF idler ㉔ by cutting special washer.

J. Bottom Sub Ass'y ⑤. (Refer to Exploded View of Mechanism Ass'y & Fig. 10-4)

1) Insert the position Ⓕ of bottom sub ass'y into the position ①. (plumger plate)
2) Sure to insert shaft Ⓒ to hole Ⓒ.
3) Slide gear ass'y Ⓓ, Ⓔ to inside while holding step 2) state, because of inserting pins Ⓓ, Ⓔ to holes Ⓓ, Ⓔ.
4) Slide the CH plate ass'y to fit the pin Ⓕ and hole Ⓕ.
5) Confirm that it is fitting the Ⓓ, Ⓔ, Ⓕ positions and fit the Ⓐ, Ⓑ, Ⓒ holes.
6) Install the bottom sub ass'y by three screws ㊺.

Fig. 10-1

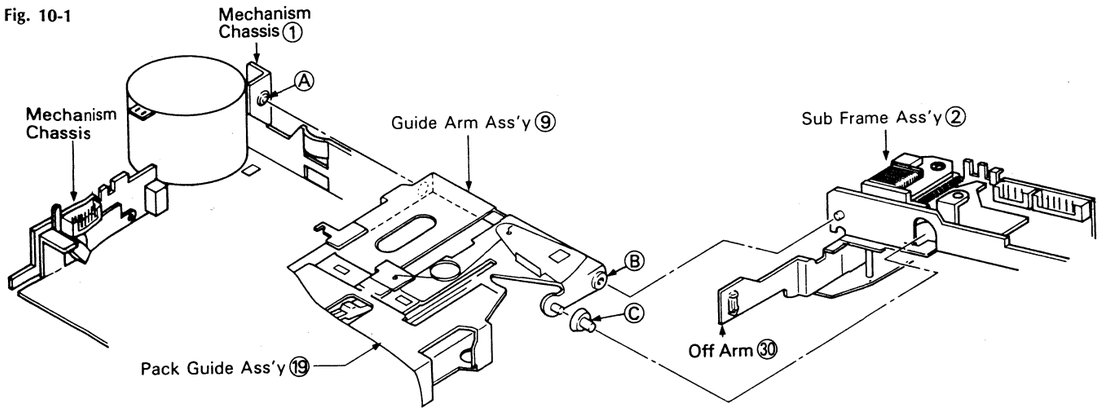


Fig. 10-2

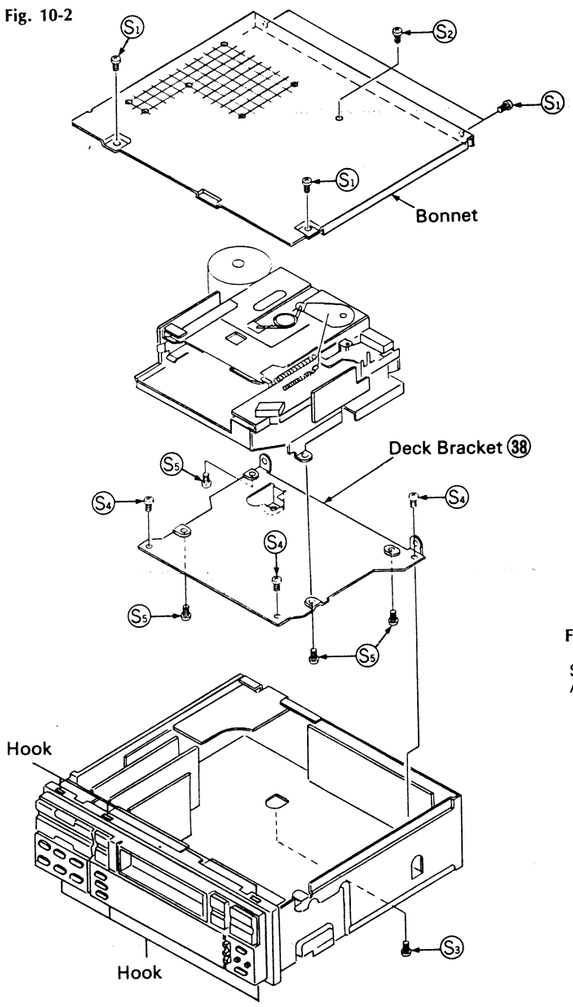


Fig. 10-3

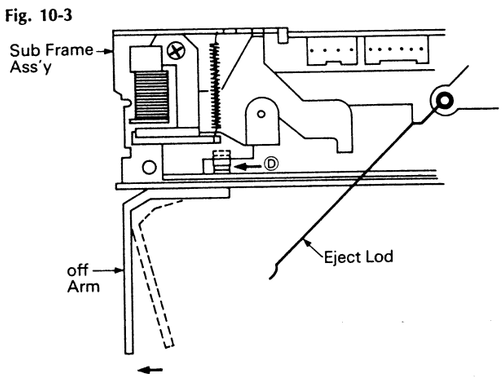
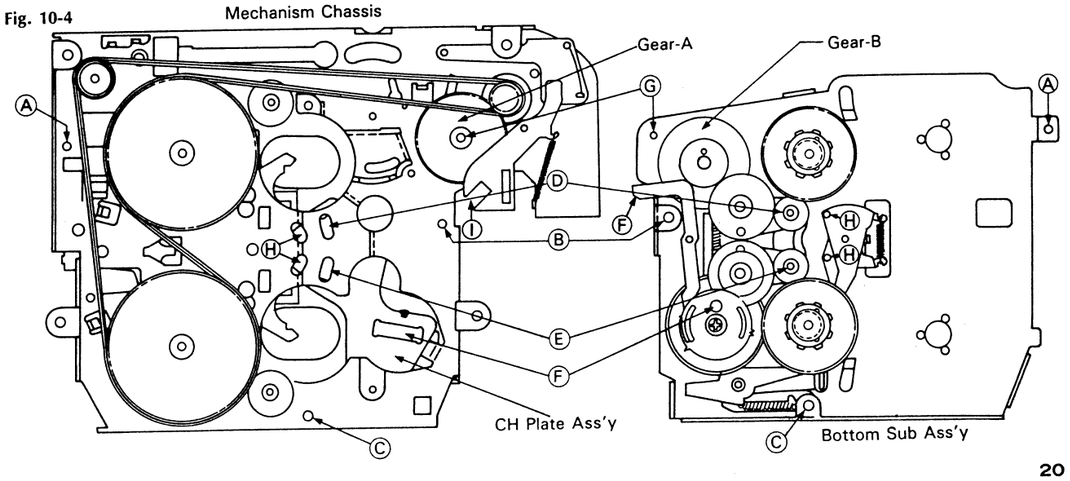
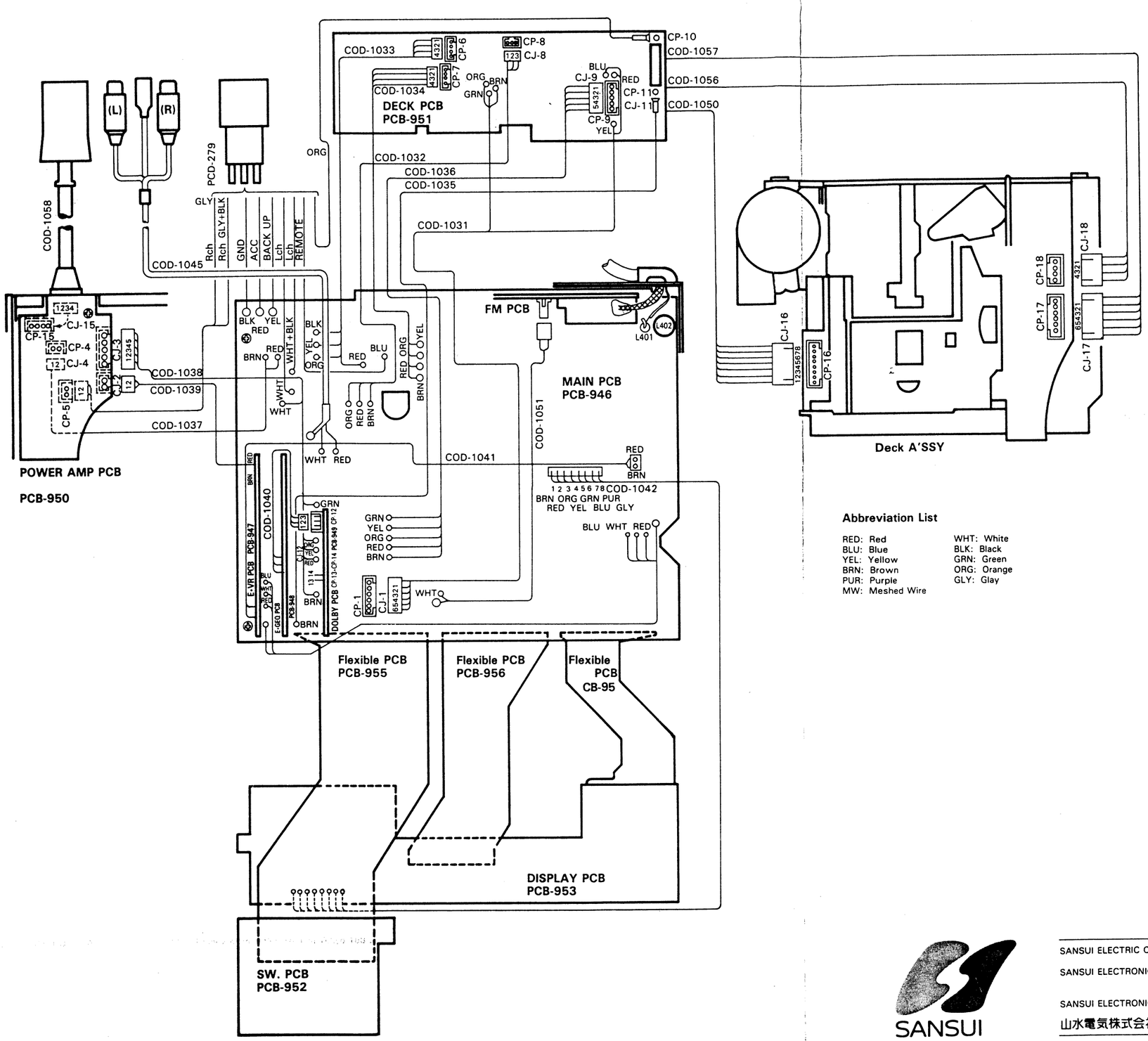


Fig. 10-4



11. WIRING DIAGRAM



Abbreviation List

RED: Red	WHT: White
BLU: Blue	BLK: Black
YEL: Yellow	GRN: Green
BRN: Brown	ORG: Orange
PUR: Purple	GLY: Glay
MW: Meshed Wire	

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